NOW: A BETTER SYSTEM FOR DETECTING RAIL FLAWS

MAY 9, 1966

RAILWAY AGE

WEEKLY

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KATY'S REHABILITATION GETS INTO HIGH GEAR

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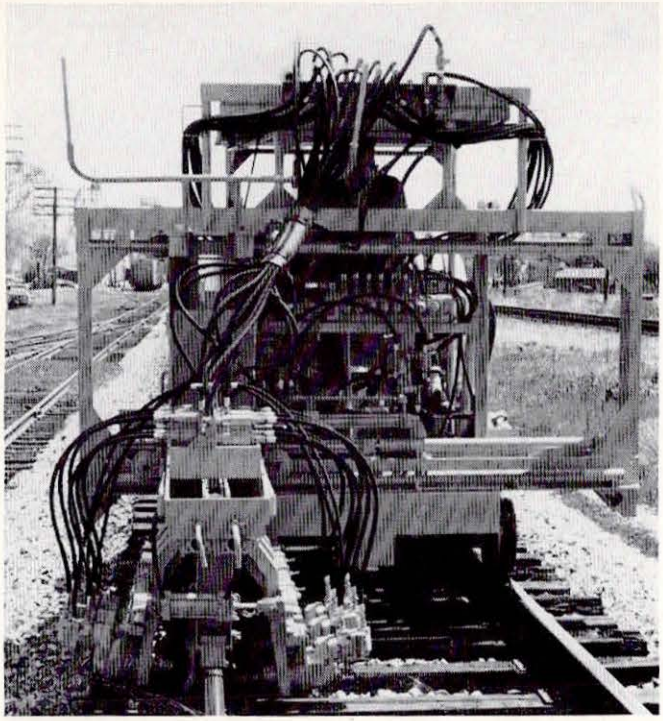
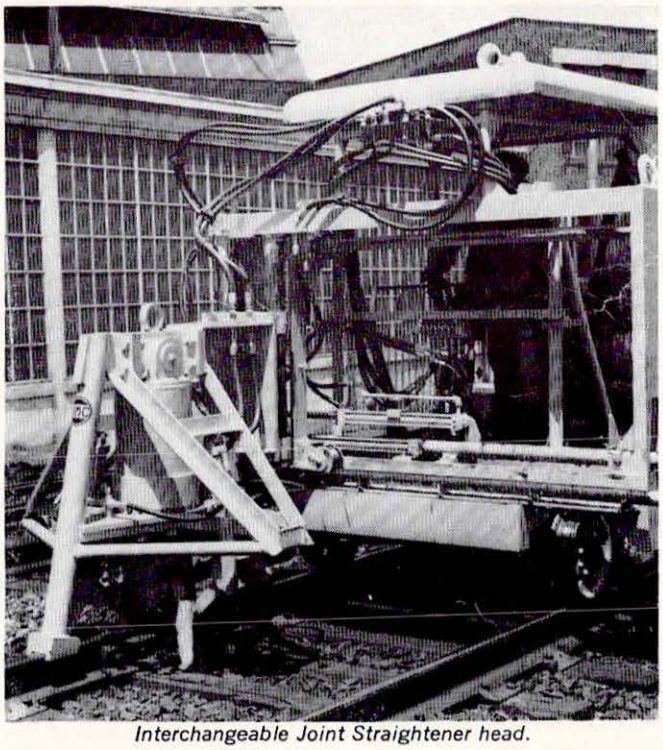
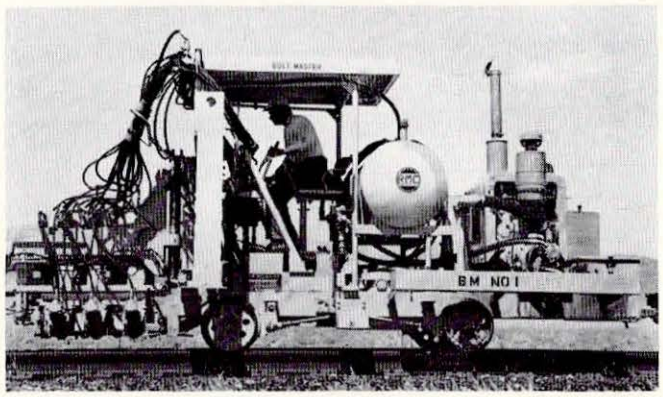




Interchangeable Joint Straightener head.



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LUBRICATES JOINTS . . . *using a spray attachment, machine applies penetrating oil or other preservative on fishing spaces and bolts of joints.*

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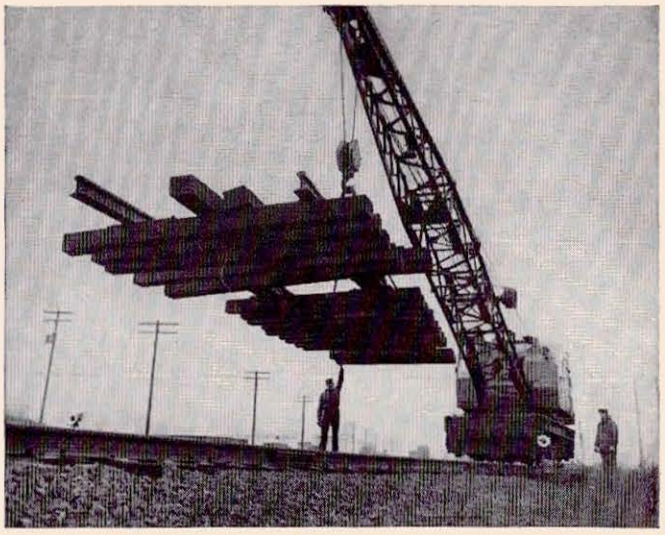
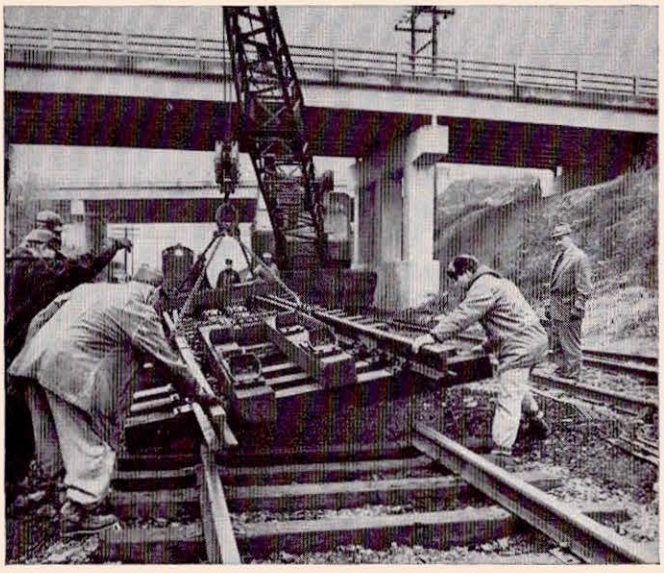
Railway Maintenance Corporation

Circle 1 on reader service card

NOW—Panelized Switches by Bethlehem cut costs for PRR





We shop-fabricate them, ship them as a unit, ready to drop into track

The Pennsylvania Railroad has found one more way to reduce trackwork costs: shop-fabricated panelized track switches by Bethlehem. The switches are accurately built up at our Steelton, Pa., plant, then shipped completely assembled. All the railroad has to do is to drop the assembly into place, install the head-block ties, and complete the ballasting.

This idea has proved so successful that the Pennsylvania is ordering Bethlehem panelized switch assemblies as a regular routine. And now Bethlehem is taking the next logical step—developing a complete turnout in the panelized concept.

Other railroads are showing lively interest in panelized switches. How about yours? Bethlehem Steel Corporation, Bethlehem, Pennsylvania.

Steel for Strength

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BETHLEHEM STEEL

Circle 2 on reader service card

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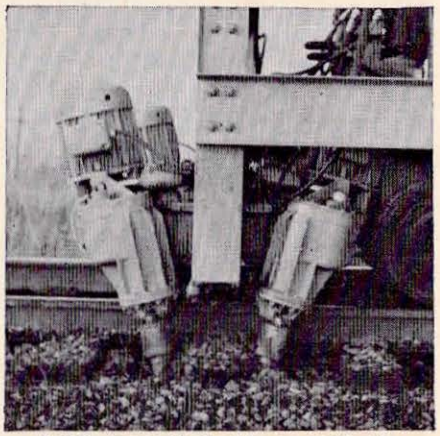
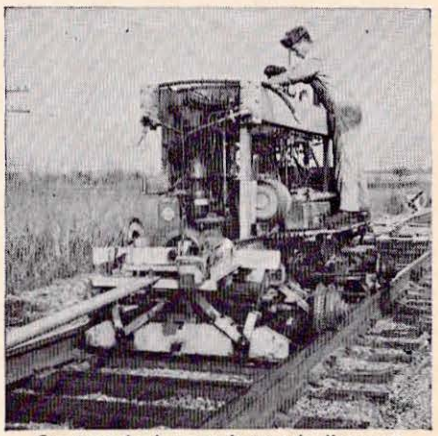
Lining track and tamping to hold it

Careful surface-gauge reading to insure smooth track

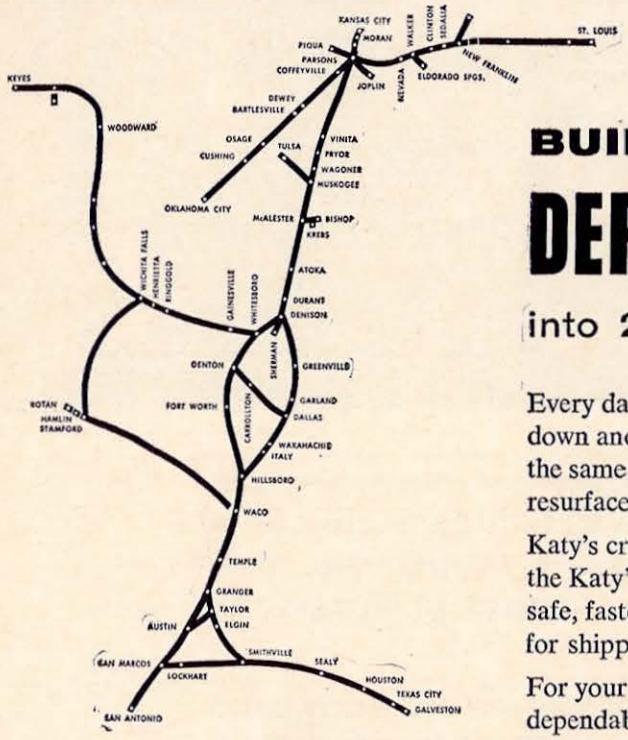
A perfect bed for the new tie



Solidly tamped ballast for a smooth ride



Constant check on perfect track alignment



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Every day, Katy's crews rebuild 8 to 10 miles. They are putting down another half-million new ties during 1966 after laying about the same number last year. The end result will be a completely resurfaced tied and ballasted roadbed.

Katy's crews are building more than a roadbed. They are building the Katy's dependability, higher than ever. New high speeds. New safe, faster schedules. Dependable connections. New satisfaction for shippers.

For your freight, dependability is what counts. We're building dependability, to make sure you can

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Circle 3 on reader service card

RAILWAY AGE

May 9, 1966 • Vol. 160, No. 18

THIS WEEK

15 R&S tank hoppers are open-tops

Each of the Roberval & Saguenay's 20 new roofless triple hoppers does the work of two older cars.

16 Katy's rehabilitation gets into high gear

A five-year track program, designed to cure the cumulative ills of years of deferred maintenance, is already paying dividends.

20 Sperry improves its rail test cars

Technical refinements have made ultrasonic detection of rail flaws more efficient and precise.

22 Tamper-Liner gets workout on the IC

The pilot model of an automated tamper with a track-lining attachment has been tested on Illinois Central.

25 C&O-B&O, P&LE build up coil-car fleets

All the special cars, being built by Evans Products, have improved cushioning to prevent damage to steel edges.

40 The Action Page—The ICC and merger patterns

Did the Commission's Penn-Central and GNP&B decisions provide reliable guidelines for merger-minded managers?

DEPARTMENTS

24 As the Editor Sees It
35 Freight Carloadings
12 Lines on Labor
8 Monday Morning Report
35 New Equipment
29 New Products Report
34 People in the News
35 Railway Market
7 Short and Significant
37 Supply Trade
40 The Action Page
29 Watching Washington
11 Week at a Glance
36 You Ought to Know

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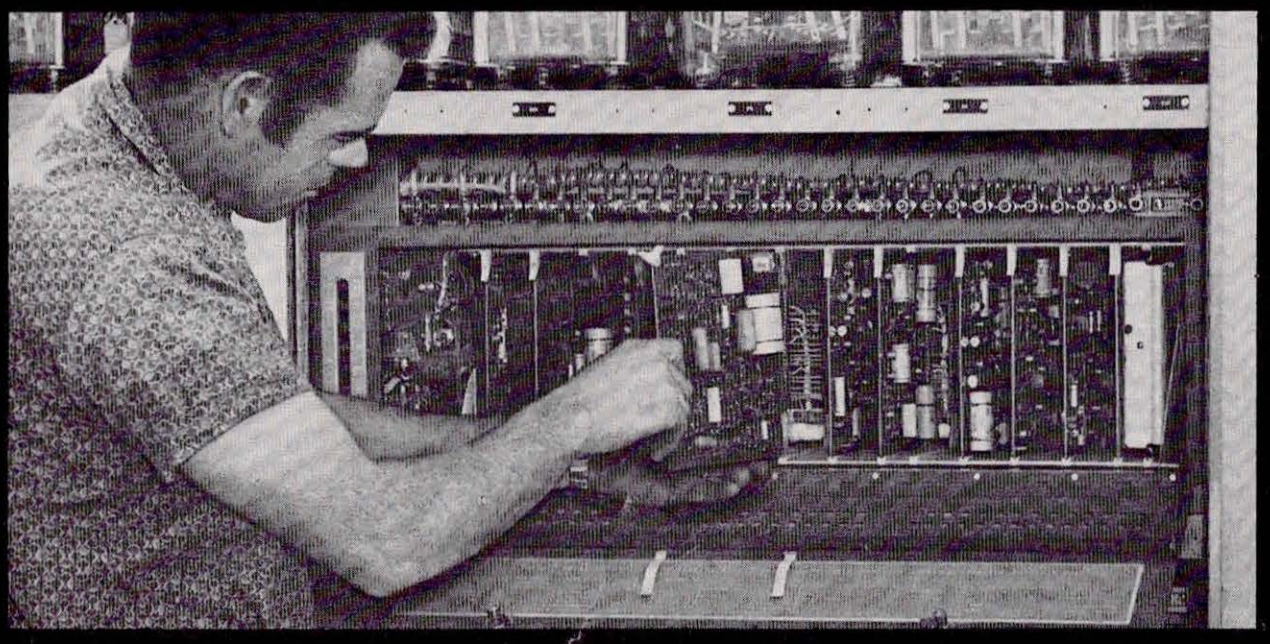
MARQUARDT GCP SERVICE IS "MODULAR"

FIELD MAINTENANCE IS SIMPLIFIED



The Marquardt Grade Crossing Predictor (GCP) continues to demonstrate reliable operation, ease of installation and maintenance, and low cost on the major railway networks at more than 650 grade crossings throughout the United States and Canada.

While the GCP is a product of advanced electronics, signal maintainers at Marquardt GCP installations know its ease of field service maintenance. Designed on a modular concept to simplify installation and operational maintenance, the GCP is centrally located at the crossing. The module requiring attention is simply located, removed, and replaced with a complete plug-in unit.

The GCP is a solid state analog control system which computes speed and position of an approaching train, predicts its arrival at the crossing, and activates the warning system. It eliminates most of the insulated joints, complex timing circuits and additional track batteries required for conventional crossing protection equipment. Insuring fail-safe operation is a self-check system which monitors GCP performance every five seconds.

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Circle 4 on reader service card

SHORT AND SIGNIFICANT

Canadian Pacific gets a new president

Ian D. Sinclair has been elected president of the Canadian Pacific to succeed R. A. Emerson, who died March 13. S. M. Gossage—who has been vice president, company services, at Montreal for the last 18 months—succeeds Sinclair as vice president and a director. As vice president, Sinclair was primarily responsible for the CP's operating and traffic departments, which were first brought together under the jurisdiction of one officer in October 1964. He began his career with the railroad in 1942 with the law department in Winnipeg and has become familiar with all phases of operations of the giant corporation. Gossage, as vice president, company services, had jurisdiction over such activities as personnel, purchasing, research, telecommunications and trucking.

Report chides ICC's rail safety program

The Government Activities Subcommittee of the House Committee on Government Operations has released a report that criticizes the railroad safety operations of the Interstate Commerce Commission. "In the past few weeks," said Rep. Jack Brooks (D-Tex.), the subcommittee's chairman, "a considerable amount of concern has been evident with regard to automobile safety and, of course, air travel safety has always been of high priority. Surely our concern with safety on this nation's railroad's, a highly important segment of our national transportation system, is equally important." The House group noted that while over the past 10 years Congressional appropriations for railroad safety have almost doubled, "there has been no decline in either the number of railroad accidents or the number of deaths and injuries." That situation was attributed primarily to a "de-emphasis on enforcement of the railroad safety statutes by the ICC, a top heavy ratio of supervisory personnel to field personnel, and the combination of the positions of safety agent and car service agent by the ICC a few years ago."

Hiltz: D&H a good catch for the N&W system

Delaware & Hudson President and General Manager John P. Hiltz, Jr. went to Washington last week to tell the Interstate Commerce Commission why the Norfolk & Western should take his road into its system. Among his reasons: it will better preserve competition among railroads in the east and will thus be more in the public interest, greater industrial development opportunities would be created along a one-line system, more on-line business would be developed, and an "extremely important bridge line" connecting the south and west with New England and eastern Canada would be preserved to serve that territory. D&H, according to Hiltz, is a going railroad. He said that despite a drop in revenues in the past 10 years, due to lost coal traffic, the road has cut its debt from $57.9 million to $32.9 million, stockholders were paid $29.2 million during this period, and $38.6 million was spent to improve the railroad.

Railroads hit by Firemen's strike are suing union

Damages of an undetermined amount are being sought by 10 railroads that suffered losses due to the four-day strike staged by the Brotherhood of Locomotive Firemen and Enginemen early last month. A dollar figure will be put on the losses when the extent of damages is determined. And in Washington, the same carriers went into U.S. District Court to petition that contempt-of-court fines of $50,000 be levied against the union, and $5,000 against its president, H. E. Gilbert. The actions were filed jointly by the Pennsylvania, Boston & Maine, Grand Trunk Western, Missouri Pacific, Union Pacific, Illinois Central, Central of Georgia, Seaboard Air Line, Spokane International, and the Texas & Pacific.

MONDAY MORNING REPORT

The lawyers gather as the RI fight begins

You could put together a highly respectable bar-association convention by gathering up the lawyers inhabiting the basement exhibition hall of Chicago's Conrad Hilton Hotel. You could also find there, last week, some of the top executive, legal, operating and public relations talent of one-third of the nation's Class I railroads.

Reason: Hearings have been opened in the Rock Island merger case. And when they may stop, nobody knows.

A case to top all?

In point of fact, this could be the merger proceeding to top all previous merger proceedings. There are, on a recent count, 76 Class I railroads. Twenty-five of them are involved—as applicants or interveners—and 23 were directly represented by counsel as the hearings got under way. In addition, 17 of the 50 states are interested—with 13 regulatory commissions sending their legal representatives to be on hand for the opening statements. All in all, it's enough to make the mind swim, the brain reel, the head ache.

The issue is clear—and also complex

At issue, of course, are the competing applications of (principally) Union Pacific and Chicago & North Western to do something with Rock Island. Southern Pacific is involved on the UP side, Santa Fe is of a bent to fall in with C&NW under certain conditions. And there are 20 roads—with an exception or two, every other major road operating in western territory—appearing in the role of intervener. The spread is just as broad in the states that are interested—with a few rather odd exceptions which could be straightened out later (Michigan, for instance, had a representative on hand, while such states as Nebraska, Texas and Oklahoma did not, as the proceedings began). And there are the to-be-expected interventions from the Justice Department and from railway labor organizations (as represented by attorneys from the Railway Labor Executives' Association and from the Brotherhood of Locomotive Engineers).

Slow but sure progress?

The outlook is for long hearings—but not interminable ones. There are charges and counter-charges that one side or another wants to delay the hearing of the case, but there are also indications that the man in charge will not look with favor on measures which he regards as promoting delay for delay's sake. The ICC Examiner is Paul C. Albus, no stranger to western merger or control battles—he presided during hearings on the Western Pacific case a few years ago, and he's known as a man who likes for things to move briskly.

What the case means —and how it may move

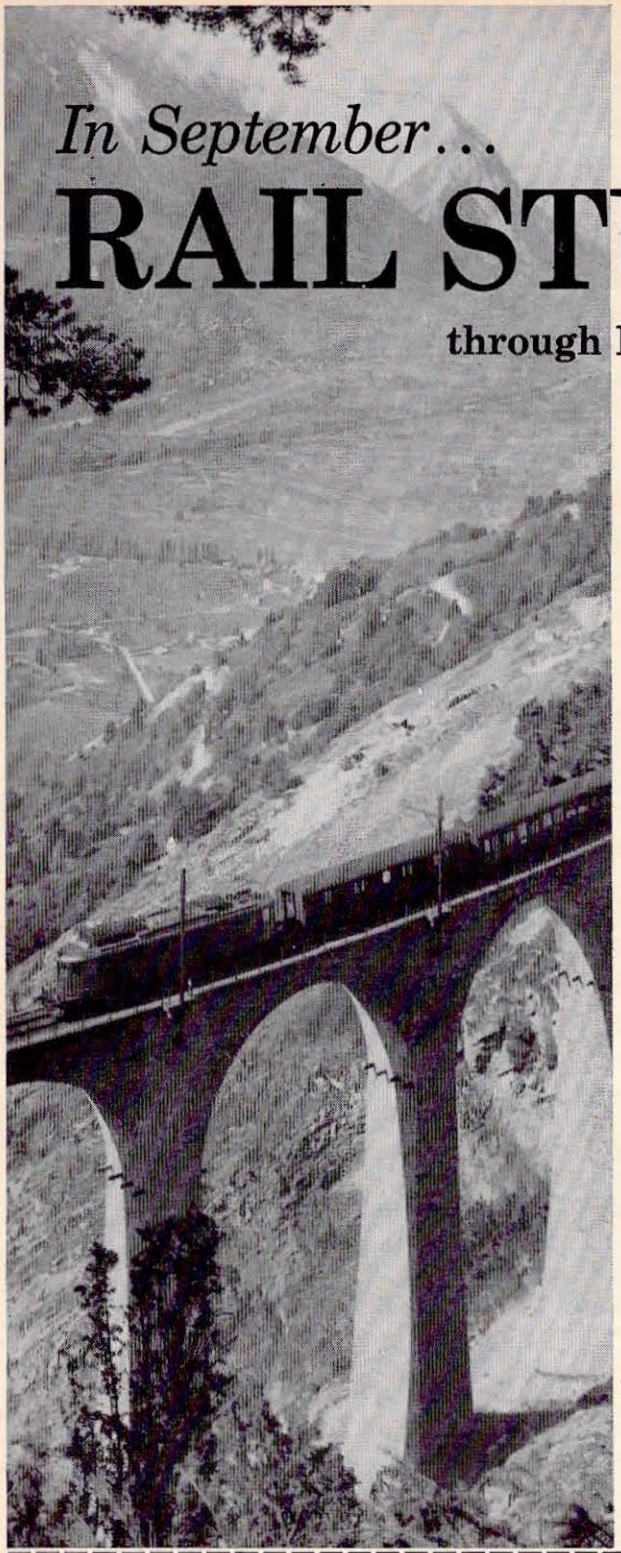
The first order of business, after appearances were duly entered, turned out to be a debate among counsel—largely regarding the supplying of pertinent information on which to base cross-examination. And there was a warning, at the outset, that previous ICC-related decisions in the case could place in jeopardy anything that comes out of the current proceedings. Over-all, there was no doubt left that this will be one of the bitterest of merger cases—that it will be no legalistic minuet but rather a long and tough and rugged war, perhaps of weaponry and perhaps of attrition. It will drag. And, where the generals were out in force as the struggle began, a corporal's guard may be left to wage the good fight as the weeks and months slip by. But it will be, still, the highest-ranking corporal's guard ever seen.

This is an unusual merger-control case, perhaps a unique one. On it, one way or another, could hinge the future of railroad organization in the west.

JOHN E. CHUBB, PRESIDENT
Detroit, Toledo and Ironton Railroad

"Its reliable, accurate and concise reporting on timely subjects is what keeps Railway Age the favorite industry periodical of the railroad executive. He need spend only a few minutes each week to get the useful kernels of the industry news and of information on important developments in products and techniques—the chaff has already been sifted out."

John E. Chubb.



In September...

RAIL STUDY TOUR

through Europe's busy passenger traffic hub

Sponsored by Railway Age

What makes that hardy perennial – European rail travel – thrive? What can we learn from their operations?

A group of kindred spirits professionally interested in the passenger side of railroading will get some of the answers during Railway Age's forthcoming Passenger Study Tour. A distinct fringe benefit–travel through Europe's most fabulous scenery, and a weekend at a world famous resort.

The tour will be headed by a member of the staff of Railway Age. The group will leave from Kennedy Airport, New York, Tuesday, Sept. 6th on Swissair Flight 113, and return Sept. 20th. The itinerary includes visits to Switzerland, Italy, France, Holland and Germany, with stop-overs at Geneva, Berne, Milan, Nice, Paris, Amsterdam, Utrecht and Frankfurt. Apart from the air trip to and from Switzerland and a Riviera motor tour, travel will be all-rail, including trips on the finest Continental name trains. Arrangements have been made for conferences with passenger officials in each of the countries visited–exchanges bound to be mutually beneficial. There will also be ample opportunity for sightseeing tours in the cities scheduled, and leisure periods to do with as you please.

The Passenger Study Tour is offered at cost–$775–which includes air fare, First Class rail accommodations, de luxe hotel rooms, hotel gratuities, two meals a day at hotels, and dining car meals. A tour conductor will function throughout the entire European itinerary. An optional extra week in Europe involving no additional outlay for the return trip is available to those interested. Your Eurail pass allowing free rail travel will also still be valid.

This will be a rewarding experience–one you will long remember. A timetable outlining the complete itinerary is available on request. Early reservation is advisable as capacity is limited. Please use the convenient coupon herewith and plan now *to go!*

This is the second Railway Age European Tour this year. A Rail-Transit Seminar Tour–July 19 to Aug. 4–will visit six countries, including England and Russia.

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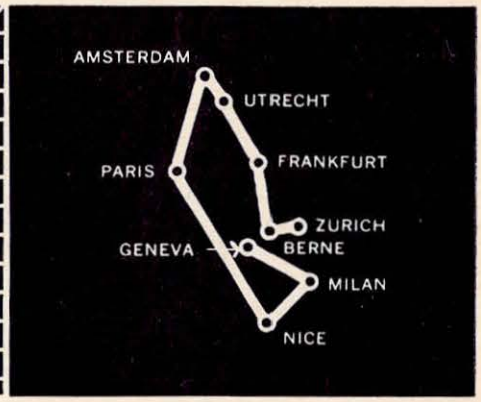

RAILWAY AGE
WEEKLY
MAY 9, 1966

WEEK AT A GLANCE

ICC willing to give up authority to set car per diem rates

ICC support of President Johnson's proposal to establish a Cabinet-level Department of Transportation was registered at Congressional hearings last week. Chairman John W. Bush made the Commission's presentation before the Senate Committee on Government Operations. Among other things, he said the Commission would not object to giving the proposed department its power to fix per diem rates for rental of freight cars. This transfer has been suggested by the Chairman of the Senate Commerce Committee, Sen. Warren G. Magnuson, (D-Wash.). The Senator thinks the per diem power should not be separated from other Commission car-service functions which are marked for transfer under the Administration's plan. While other transportation interests continue to endorse the Presidential proposal "in principle," outright opposition has come from the Common Carrier Conference of Domestic Water Carriers. Its spokesman, J. W. Hershey, chairman of the board of American Commercial Lines, told the House Government Operations Committee that the conference chose the opposition course over the "in principle" alternative of giving "lip service and . . . crippling amendments."

New York Central holds its last annual meeting

Shareholders of the New York Central filed into the Grand Ballroom of Detroit's Statler Hilton Hotel last week for what amounted to an historic occasion for the NYC. It marked the convening of the last regular annual meeting of the existing New York Central System. Within the next few weeks the Central and the Pennsylvania, acting on authority granted by the ICC April 27, are expected to consumate a merger to create the Pennsylvania New York Central Transportation Company. Pennsylvania shareholders will meet in Philadelphia May 9 for what will be their last annual meeting as a separate road.

"While this may be the last regular annual meeting of the New York Central System, as such," NYC President Alfred E. Perlman told the audience, "this same management team pledges its best efforts to achieve for you a greater profit and increased security in the vast new enterprise toward which we are diligently striving."

Turning to the field of cybernetics—for which he has been earnestly tub-thumping throughout the industry—he repeated a suggestion he made a year ago regarding a solution to the box car shortage.

"It is my belief that if a computerized system for maximizing freight car utilization can be developed on the Central, there is no reason that it cannot be applied nationwide." His suggestion: Establish a computer center—"perhaps in Detroit or Chicago, to keep a daily record of the approximately 1,800,000 freight cars in the national car fleet. Such a center would go a long way towards materially assisting in the determination of the size of the car fleet that railroads should maintain."

Heineman on business: 'Preaching what we practice'

Chicago & North Western Chairman Ben W. Heineman, addressing the 54th Annual Meeting of the U.S. Chamber of Commerce in Washington last week, told some of the nation's top business leaders that business-tested proposals for economy in government are often unheard or ignored "because they do not survive the chorus of negativism that we seem to preach."

The problem, said Heineman, is that businessmen often advocate parsimony in the guise of economy. "If we as businessmen were more selective in the economy we advocate, if we supported useful programs at the same time we oppose wasteful ones, I believe our message would stand much greater chance of acceptance.

"I have never believed that political bodies are inherently unreasonable. I am convinced that if our arguments are rational, if we are discriminating in what we oppose and propose, and if we admit that there are problems that must be solved by government, we will get a much fairer hearing in the legislative halls and wherever we seek support for economy in government."

All he is suggesting, said Heineman, "is that we preach about government spending what we practice in our own businesses."

Official stamp put on high-speed train project . . .

The Pennsylvania and the Department of Commerce last week signed their contract to provide faster and improved passenger service on PRR's Washington-New York line. The contract calls for a two-year demonstration getting under way in October 1967. The government is putting up $9.6 million and PRR will invest "at least as much and probably a great deal more." This was pointed up at a joint press conference held in Washington May 4 by Secretary of Commerce John T. Connor and PRR Chairman Stuart T. Saunders.

Connor noted that plans for the demonstration contemplate the acquisition of 50 new cars which Saunders thinks will be the "most comfortable cars in the world." The Secretary described the demonstration as a market test designed to evaluate "the role that rail passenger transportation can play in the future in heavily-populated corridors that are emerging in all sections of the country."

. . . and Budd to get the order for the first 50 cars

Under the project, the PRR will order 50 new cars—40 coaches and 10 parlor cars. The car order, which is expected to total about $20 million, is slated to go to the Budd Company.

PRR Chairman Saunders has pointed out that there will be a testing time before the demonstration gets under way. That will begin this summer when four experimental cars, which will be rolling "laboratories," are delivered by the Budd Company.

The PRR Chairman predicted that running time between Washington and New York will be reduced to less than three hours (about fifty minutes less than present schedules) in initial stages of the demonstration. That contemplates speeds up to 110 mph, but Saunders hopes speeds up to 150 mph can be attained by 1970.

GUS WELTY'S LINES ON LABOR

WELTY

THE EVIL MEN DO rates banner headlines, the good is oft interred on page 47. And, in much the same way, the conflict in rail management-labor relations gets all the attention, while the opportunities for cooperation sometimes get short shrift. The specific that prompts this somewhat-less-than-original observation is the effort that *is* being made, in part as a cooperative thing, in promotion of grade-crossing safety. For some time now, a number of roads have been asking train crews to report "near-miss" incidents at crossings —and the reports they're making are both appalling and encouraging.

FIRST, THE APPALLING side of things. In 1965, on Missouri Pacific alone, crewmen reported 574 safety violations—481 involving tank trucks, 31 involving school buses. It would seem likely that the men in the cab react most angrily to chance-taking tanker and bus drivers—so that 574 figure probably represents "hard-core" violations and a complete count would run many hundreds higher. Whatever the total, it's too much.

NOW FOR THE ENCOURAGING aspect. In contrast to the bad side—which has the shattering crash and violent death as its evidence—the good side has its base mainly in the hopes of men for better things ahead. And it would be only logical to believe that these hopes will become realities more quickly and more effectively with joint and hard-hitting support from both management and the organizations.

QUITE NATURALLY, the grade-crossing problem is one that has always been of deep concern in the engine- and train-service unions. BLE Grand Chief Perry S. Heath, for example, is calling for a stepped-up cooperative safety program with the carriers. ORC&B President George H. Harris, meanwhile, has conducted a letter-to-the-editor campaign proposing that truckers be required by law to carry a flagman on every vehicle which (a) carries dangerous cargo and (b) crosses a railroad at grade on its route.

IT SEEMS DOUBTFUL, at this point, that the Harris plan will generate much support. Most observers would probably say that safety can be enforced without the employment of extra men. But the ORC&B chief's outspoken stand does illustrate the importance the operating crafts attach to the crossing problem. Management regards it as no less vital. And so, broadly, an opportunity for cooperation is available. But can this mutual action occur when mutual self-interest is not so obvious? Thinking people on both sides would probably agree on an answer: It has to. It's the optimum way for the many mutual interests to be served.

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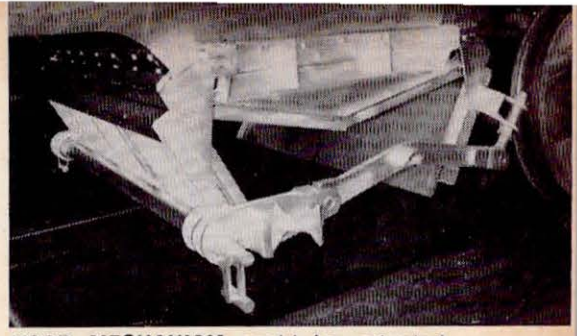
R&S tank hoppers are open-tops

Aluminum cars without center sills are handling bauxite on 20-mile Canadian route; quick-dump doors could be automated.



DOOR MECHANISM could be actuated automatically by wayside ramps and trips.

The tank hopper, originally a covered type, now has evolved into an open-top car. Eastern Quebec's Roberval & Saguenay has just put 20 of the 100-ton aluminum triple hopper cars in its bauxite-hauling service.

● **One-for-two replacement.** Planned retirement of obsolete 50-ton cars led to ordering of new equipment from Montreal Locomotive Works. On the basis of capacity alone, a 1-for-2 replacement ratio could be expected. Because of design features and operating changes made possible, it is expected that the new cars could displace well over 40 of the old ones.

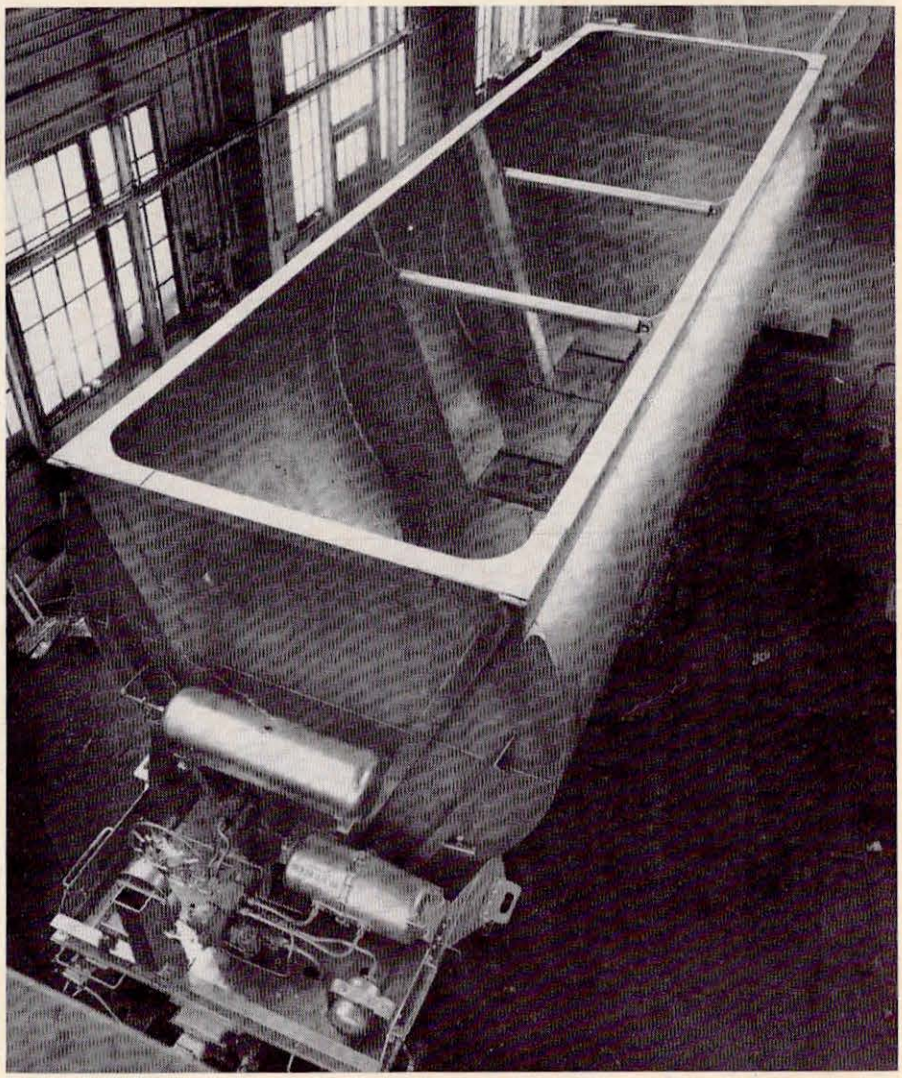
The 6-to-1 load-to-tare ratio is even better than was achieved with earlier Alcan-designed tank hoppers (RA, Sept. 12, 1960, p. 60). It is expected that $40,000 will be saved yearly in operating costs solely on the basis of improved payload characteristics.

● **Cut shaker use.** 50-degree slope sheets and special hopper doors are expected to reduce significantly the use of shakers, simultaneously speeding unloading at the smelter and reducing wear.

The quick-dump door arrangement, produced by Continental Transport Appliances, consists of three pairs of doors which open over 40 square feet of the bottom of the car for lading discharge. The absence of center sill allows each door to extend completely across the car.

● **Tested doors.** A prototype hopper door was tested for some time on an existing R&S hopper car before the arrangement's acceptance for the new units. The operating mechanism for each pair closes one door completely before moving the other which then swings up to overlap the first and seal the opening completely. The pair are latched by an over-center toggle arrangement and are accurately balanced so they operate with a minimum of effort by one man from either side of the car. The ease of operation is seen as an aid to possible full automation with wayside ramps and trips.

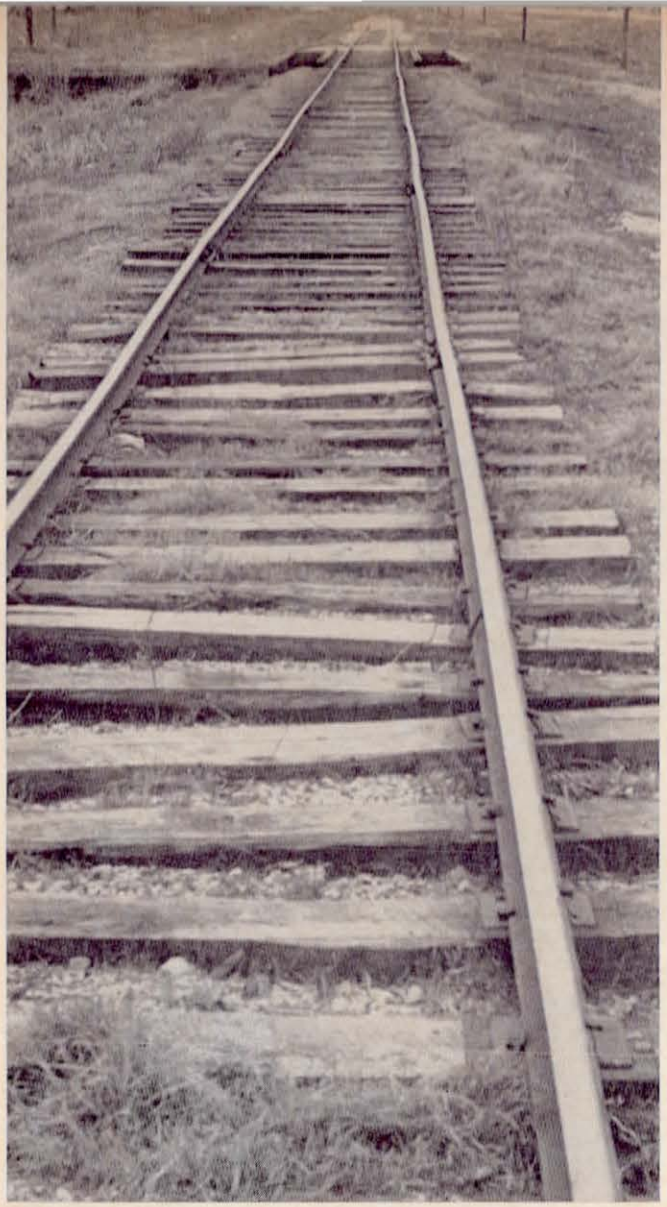
The cars themselves resemble closely their covered-hopper predecessors. The tear-drop-shaped body configuration with its heavy side sills is followed exactly. As with earlier models, a modular concept is utilized which could readily produce capacities larger than the 2,500 cubic feet of the new cars. Body volume in this case is fixed by the density of bauxite—approximately 90 pounds per cubic foot as loaded. Stub sills and end geometry duplicate previous practice.



RAPID DISCHARGE, 108 tons of bauxite in 2 minutes, speeds car's turnaround on runs between tidewater Port Alfred, Que., and Alcan smelter at Arvida, Que.

● **New aluminum alloy.** The aluminum plate used in the car—practically all 5/16- and ½-inch thicknesses — is a magnesium-zinc alloy (Alcan 74S) relatively new to railway car applications. Its tensile, in excess of 50,000 pounds per square inch, is a considerable increase over the 35,000 psi of the straight magnesium alloys used in earlier cars. Alcan designers note that substantially greater resistance to localized damage of body sheets is produced with no change in workability.

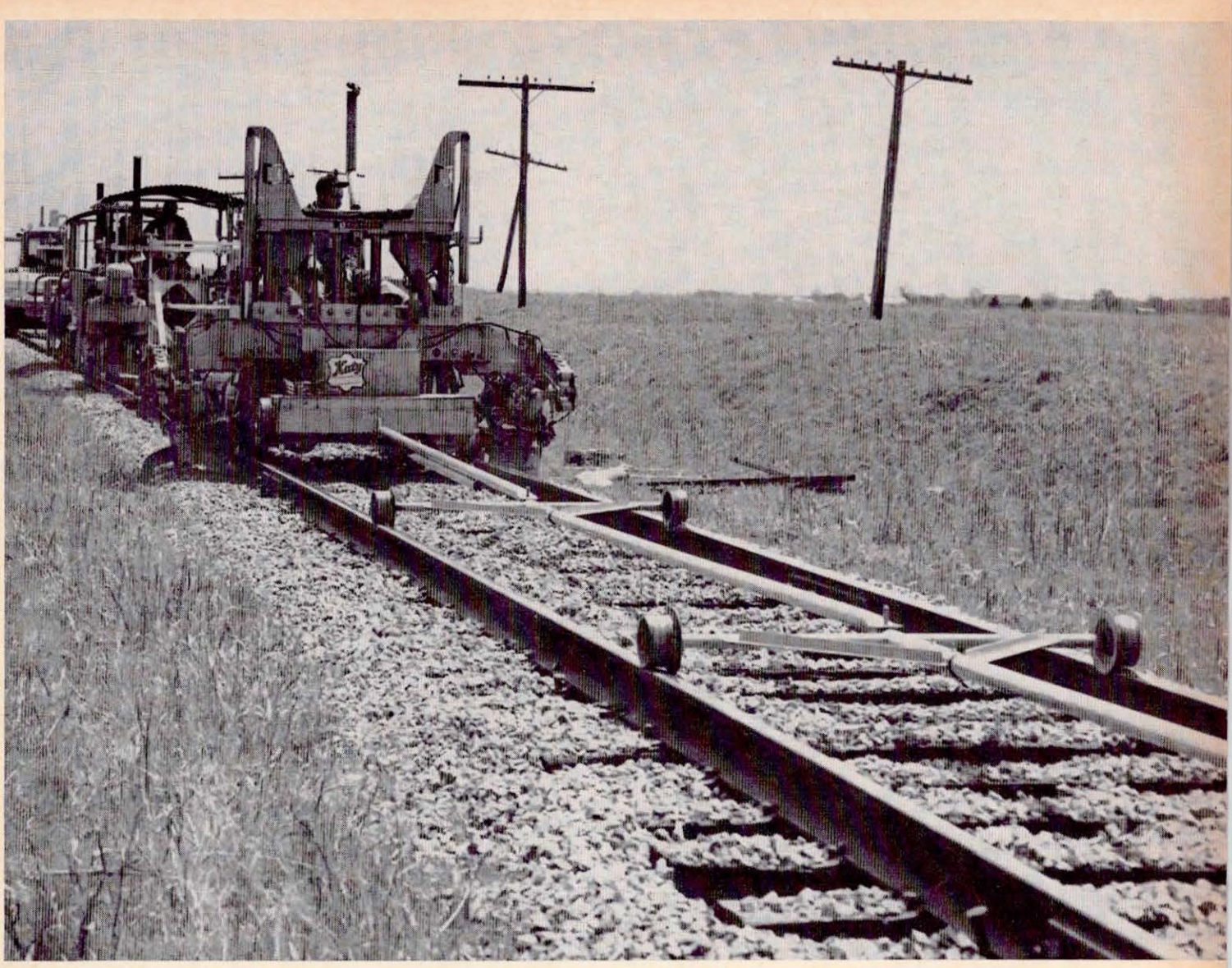
Each car, weighing approximately 38,000 pounds, contains 11,000 pounds of aluminum alloys. The car is 40 feet 2 inches over strikers. Length inside end sheets is 30 feet 2 11/16 inches; width outside body sheets, 10 feet 8 inches. Over-all height is 12 feet 8 inches. ■



DEFERRED MAINTENANCE amounting to some $20,000,000 had left the M-K-T with a poor tie condition, center-bound track and kinked rail (above). Today, after a year of intensive tie-renewal and surfacing work, hundreds of miles of main track have been upgraded (right), permitting maximum freight-train speeds of 55 miles per hour.

Katy's track project hits high gear

- **A five-year rehabilitation program, begun in 1965, will cure all deferred maintenance.**
- **Work this year will be concentrated on the main track south of Dallas and Fort Worth.**



NEW EQUIPMENT, like that shown above, has been a key factor in speeding the Katy's huge track-rehabilitation program.

Train delays due to derailments and slow orders were the norm on the Missouri-Kansas-Texas when John Barriger took over the presidency of that road in March 1965 (RA, May 24, 1965, p. 10). Today, things are different and the reason they are different is because of the work being done on the tracks.

Pushing a chart across his desk, Barriger recently told Railway Age: "There is the visual record of M-K-T main-track derailments over the last six years. In 1964, for example, these ranged from 24 to 69 per month. Nearly all were due to track conditions. My first trip over the line revealed a deplorable tie condition almost everywhere. Many of the ties that had failed were inserted during the war years of 1942-1945. A large number of them were not of good-quality timber and a shortage of oil and creosote limited the quantity of chemical impregnated in the wood, hence the future life of the ties.

"Over the past few years the tracks became center-bound because of excessively long intervals between cycles of surfacing. Consequently, many ties were broken by heavy loads moving over tracks in this seesaw condition, and much rail at these locations was kinked and bent, hence, its service life was also shortened through deferred maintenance."

● **Consultants point direction.** To determine track needs and what should be done about them, Barriger sought the advice of three top maintenance officers from other roads. The men made careful inspection trips over the tracks. Their conclusions indicated that during the previous decade over $20 million less had been spent on maintenance than should have been appropriated to restore the equivalent service life that had been dissipated by weather and use over that period. Bridges generally were found to be in satisfactory condition due to an extensive bridge repair program carried on immediately following World War II.

Much new rail was needed but it was recognized that the foundation elements of the track, i.e., ties, ballast and surfacing, commanded an over-riding priority for the limited funds available. These, incidentally, were largely provided last year out of an undistributed balance of $4,750,000 remaining from an earlier ICC-guaranteed loan.

A five-year track-rehabilitation program was planned that would begin in 1965—starting in late June. The program contemplated saturation of the track with three million new ties to remove substantially all those that had reached or will have reached the end of their effective service life by the time of their replacement on this schedule. More than 2,000 miles of track require surfacing and 500 miles of 115-lb rail are needed to replace the 85-90-lb rail that is considered unsatisfactory for main-line requirements. This old rail is urgently needed to replace worn-out rail in secondary main tracks, branch lines, yard tracks and sidings.

The preliminary program was pre-

sented to the railroad's board of directors at its June 1965 meeting and was approved in respect to general principle and objectives. A specific maintenance budget to begin the comprehensive program was authorized. In recent meetings the 1966 maintenance-of-way budget has been sanctioned.

● **Higher speeds required.** To make M-K-T freight schedules competitively successful, says Barriger, "its trains should be run at speeds that will require all the light rail now in its primary main lines to be replaced by 115-lb rail, except in slow-speed sections through yards and city streets." A year ago the succession of slow orders over the entire railroad made it virtually impossible to operate freight trains over any considerable distance in excess of 25 mph, he adds.

The 1965 program permitted removal of all slow orders between Kansas City and the north Texas terminals of Fort Worth and Dallas. This year's program will achieve the same objective on the primary main lines in Texas.

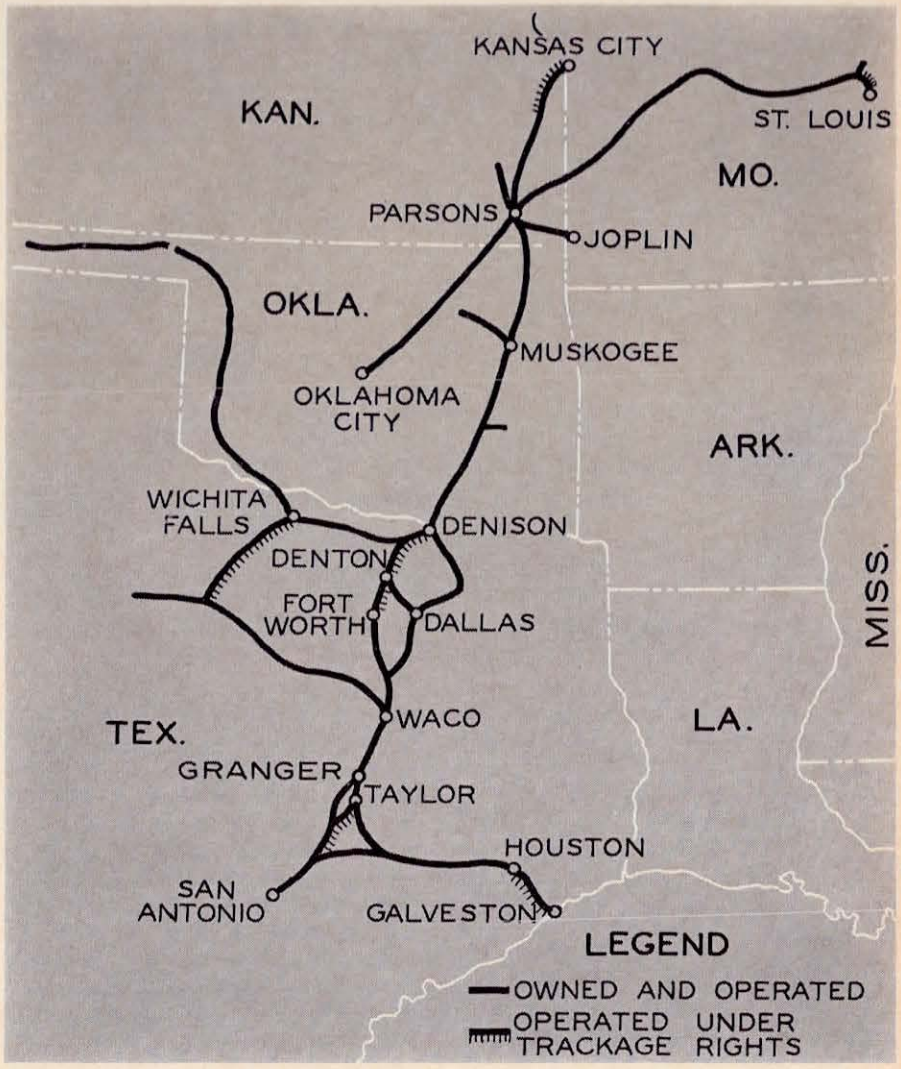
The present maximum operating freight-train speed is 55 mph. It is hoped that within a few years this can be raised to 70 mph to keep in step with Katy's neighboring lines. This is important for the Katy because, except between Kansas City, Fort Worth, Dallas and San Antonio, it is a longer line than its rivals, i.e., between Kansas City and Houston and between St. Louis and all Texas points.

The M-K-T is completely equipped with automatic signals between Kansas City and San Antonio. At one time block signals extended into Houston. After passenger trains had been removed from that line in 1959 and the freight service had been cut back to one through freight train daily and a local of uncertain frequency, automatic block signals were removed between Granger, Tex., the junction of the route to San Antonio, and Houston, a distance of 176 miles. Because of operating requirements, signals between Granger and Taylor, 11 miles, are being restored.

● **More signals needed.** There are two long lengths of primary lines requiring heavy rail (115-lb section) and automatic block signals to permit the higher speeds desired. These routes are shown in the accompanying table.

There are less than 35 miles of 90-lb rail in the route between Kansas City and San Antonio. Rail has been ordered to replace all 90-lb rail remaining in the line, except over short lengths of slow-speed tracks and streets in Muskogee, Okla., and Waco, Tex. Barriger notes that, while all Katy branch lines are urgently in need of rail, the 1966 program calls for such work on only the line between Dallas and Denton and on

Last year's portion of Katy's track-renewal program eliminated all slow orders between Kansas City, Dallas and Fort Worth



MAXIMUM FREIGHT-TRAIN SPEEDS, it is hoped, will be raised from 55 mph to 70 mph, to keep the Katy in step with its neighboring lines. More block signals and heavier rail will permit the higher speeds that are competitively necessary.

the Joplin branch. These routes have been selected because of their traffic importance.

● **Huge job.** The extensive track-rehabilitation program set up posed a monumental task for the track forces. Very little modern track machinery was available and much of it was in poor condition. A large amount of such equipment had been acquired in 1956, but this was largely worn out. For surfacing work there remained only four operable Jackson Track Maintainers and an RMC spot tamper.

To implement the program it was first necessary to acquire a large amount of modern work equipment, which was obtained through purchase as well as by lease agreements. Machines were obtained to equip three tie gangs, two high-speed surfacing gangs, two smoothing gangs and two spotting gangs. Also, some miscellaneous equipment was obtained for laying welded rails, mowing weeds and conducting other routine maintenance tasks.

In selecting equipment for their high-speed surfacing gangs, Katy officers reasoned that the wise approach would be to concentrate in the beginning on equipment of a type its forces were trained to operate and maintain. Hence, each of its high-speed surfacing gangs has a Kalamazoo Handyman with Nordberg TrakSurfacer, two Electromatic Junior tampers, a Nordberg Trakliner and Line Indicator and a Kershaw Ballast Regulator with broom attachment.

New tie-insertion equipment being put into service for each of the three tie gangs includes a Fairmont Hydraulic Spike Puller, a Fairmont Rail Lifter, a Nordberg HydraSpiker, two Kershaw Dual Tie Saws, and two Kershaw Scarifier-Inserters. Three RTW Tie Handlers are used with the large mechanized gangs, and four Tamper Hydrenewers were acquired to facilitate making tie renewals by forces other than the large tie gangs.

The smoothing gangs are equipped with Electromatic Junior tampers and Trakliners with Line Indicators. Spotting gangs will be assigned either an RMC Spot Tamper or a Jackson Track Maintainer, as the equipment becomes available.

Along with the acquisition of new equipment, the track forces were reorganized. Assistant roadmasters now regularly inspect the track.

● **Much work already done.** The Katy did not get all the new equipment in 1965. Yet, between February 1965 and the end of the year, its forces renewed 414,132 crossties (60% of which were installed by mechanized gangs between Kansas City and Fort Worth), and surfaced 281 miles of track in the same territory. More than 1,400 cars of new stone ballast were used to raise the track out of its center-bound condition.

J. T. Hunter, new Katy chief engineer, says the north end of the road between Kansas City and Fort Worth and between Denison, Tex., and Dallas, has been upgraded enough to be considered "secure." Not one derailment due to track conditions has occurred since the rehabilitation was completed. Three single-spaced typewritten sheets were formerly required to tabulate slow orders there. Hunter reports that now there are no slow orders on any M-K-T main tracks between Dallas, Fort Worth and Kansas City, except when maintenance gangs are working.

The bulk of the 1966 track work is concentrated south of Dallas and Fort Worth. By the end of this year it is anticipated that 500,000 more crossties will have been renewed (77% by mechanized equipment), and that 503 more track-miles will have been surfaced. The south end of the road then will also be secure and is expected to be relatively free of any special hazard of derailments due to track conditions.

Also planned for this year's work is the laying of 31 track-miles of new 115-lb rail to replace 90-lb rail thirty or more years old. The new rail will be welded into 1,440-ft strings to reduce future joint maintenance. To facilitate laying the long rails, the road acquired a Speed Swing crane, a Kershaw cribber, a Racine rail saw and a drill, two Racine anchor applicators, a Nordberg adzing machine, a Fairmont tie sprayer and a Simplex rail expander.

Hunter points out that other maintenance work also is going to be given more attention in 1966. This includes replacing worn joint bars, cutting and spraying weeds, and grading and ditching. Equipment has been acquired to carry out this work. Some of the grading and ditching work, however, will be done under contract.

For years M-K-T forces did not, as a general practice, burn ties removed from track or pick up rail taken out of the track because of defects. Also, no weeds were cut or brush cleared. Moreover, derailed cars and miscellaneous debris—couplers, draw bars, miscellaneous railroad waste and trash—was left where it originated. These details of good railroad housekeeping are again receiving normal attention. While this has entailed some expense, the recovery of salable waste material, especially the many damaged cars left along the right of way, has more than paid for the work of picking it up.

● **Will catch up in 1969.** Commenting on the five-year rehabilitation program, Barriger says it is proposed to cure all deferred maintenance insofar as it relates to ties, ballast and surfacing, and to advance the rail-replacement program so far as is financially practicable. He intends to go forward with tie replacement at an average rate of not less than 500,000 ties per year until the three million-tie program has been completed. After that point, he reasons that the annual tie program can be cut back to about 200,000 to 250,000 ties, depending upon whether the future life cycle proves to be a minimum of 33 years or a maximum of 40 years.

Barriger also expects that within the five-year period at least 90% of the main tracks will be surfaced and that the ballast needed to bring them up to an acceptable standard of maintenance will be applied. Other features of the program will be pushed forward as rapidly as financial conditions will permit, he says. If Katy traffic opportunities are fulfilled, he feels that the entire program of rehabilitation and development can be accomplished by 1969 or 1970.

M-K-T, like all railroads, has many older structures that are no longer useful. Those still in use are generally of excessive size and of absolete functional arrangement. The opportunity these buildings present for elimination, consolidation, rearrangement or replacement is recognized. M-K-T hopes to begin next year to replace many of these structures with small, attractive, functional, prefabricated buildings. It is thought these will be much more satisfactory for those who work in them as well as being economical for the company to service and maintain. ■

Where M-K-T requires heavier rail and automatic signals

Route	Distance	Miles of 112/115-lb rail	Miles of 90-lb rail (and some 85 lb)	Miles of block signals	Lines with no block signals
Parsons, Kan.-Machens, Mo.*	360	36	324	120	240
Taylor, Tex.-Houston, Tex.	165	55	110	12	153
Total	525	91	437	132	393

*Junction with CB&Q over which trackage rights are used for 18 miles into St. Louis.

Sperry improves its rail test cars

Ultrasonic systems of rail-flaw detection have been revamped.

THE ENTIRE FLEET of Sperry Rail Service detector cars, one unit of which is shown

Systems for detecting internal defects in rails are keeping up with the times.

Designers for Sperry Rail Service, calling to their aid such modern concepts as electronic data processing, have redesigned the ultrasonic systems used in the company's fleet of detector cars. They have, in addition, added a monitoring system which automatically "supervises" operation of the ultrasonic systems and makes a record of the efficiency with which they are operating.

The advantages obtained through these and other improvements are described by Gerry Cowan, Sperry's chief engineer. "For one thing," he says, "our cars are now finding additional and smaller defects than before. For another we are now testing the rail more efficiently without increasing the load on the operator. You will understand the importance of the latter point when you realize that our operators normally are required to make about 2,000 decisions an hour. Now some of the decisions are made for them."

• **Modular circuits used.** Still another recent improvement has been to incorporate the controls for the detection systems in modular circuits which are mounted in a compact cabinet referred to as the detection-control center. Use of the modular concept, points out Cowan, means that trouble in the control system can usually be corrected simply by replacing modules, which he notes, can be done without the services of an engineer. Another point is that the modular system can be easily expanded if additional logic should be introduced in the future to render the system more effective at higher testing speeds.

For a complete understanding of the recent improvements it is necessary to go back to 1959. The first of two ultrasonic systems was installed then in Sperry cars which previously had relied entirely on the induction method of rail-flaw detection. One of the ultrasonic systems was for detecting centrally located transverse defects (CLTD) in rail heads. This system involved the use of search units in the form of rubber-tired wheels for transmitting ultrasonic impulses to the rails.

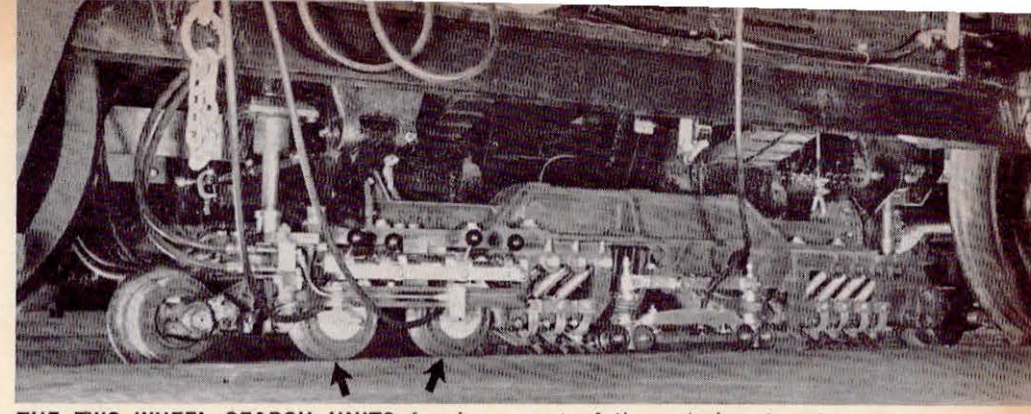
The information derived from the wheel search units was presented on a strip-chart recorder. Since the same strip-chart recorder has two analog pens (one for each rail) to indicate the results of the induction detector system, the findings of this system could now be correlated with indications received through the ultrasonic system.

The resulting correlation was not only of value to the operator in evaluating results in the joint-bar area but also in the intermediate portions of the rails. Previously, severe surface conditions in these portions had taxed the operator's ability to identify true defects from conditions of the non-dangerous type.

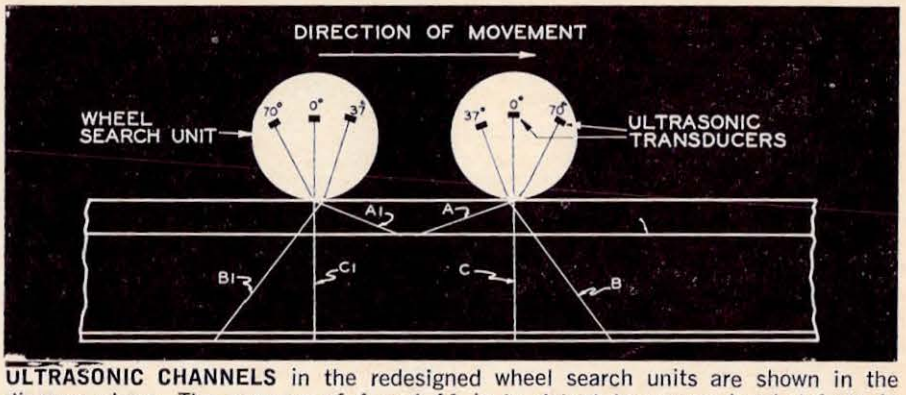
• **System for web defects.** A separate ultrasonic system was developed for detecting web defects in the joint areas. In the past the defects had been detected by means of hand tests involving portable equipment. Although extremely accurate, this equipment was of limited usefulness because of the time required to make the tests. To overcome this limitation another rubber-tired wheel search unit was developed. That unit directs sound at a steeper angle into the web of the rail. This system had a feature which overcame the problem of indicating normal bolt holes. A buzzer-and-light combination was used to alert the operator when a defective joint was detected. Although not as effective as the hand-test methods, this system, said Cowan, was responsible for detecting about 15,000 web defects in the joint area in its first year of operation.

By adapting ultrasonics to the detection of defects in the joint-bar area,

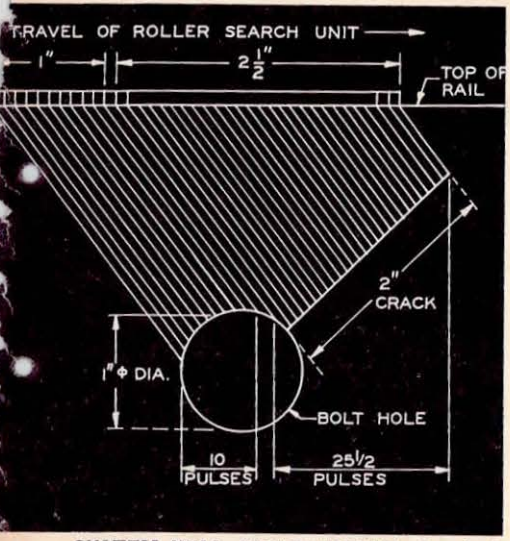
above, will get refined detection systems.



THE TWO WHEEL SEARCH UNITS forming a part of the redesigned systems are shown by the arrows. Apparatus to the right of the wheels forms part of the induction system used by Sperry cars. The two systems were first 'married' in 1959.



ULTRASONIC CHANNELS in the redesigned wheel search units are shown in the diagram above. The purpose of A and A1 is to detect transverse head defects in the rail being inspected. B and B1 detect defects in the rail webs, including both head-and-web separations and bolt-hole cracks. Channels C and C1 are a key factor in the new Sperry system. By helping other channels in accepting, rejecting or enhancing signals, these beams are said to increase the sensitivity of the system. Controls for the induction and new ultrasonic systems in a detector car are incorporated in a single compact cabinet.



SYSTEM WILL RESET ITSELF at a bolt hole without giving an alarm a short distance after last echo is received from hole. However, if a crack is present, as shown in diagram above, signals from it will continue to register until a preset alarm count is reached. If alarm system is set to detect cracks one inch or more long, two alarms would be received from the two-inch crack shown.

Sperry brought to its aid a system completely independent of variables that exist with the induction system. In other words, by "marrying" the two systems the company obtained a combination that it reports has greatly enhanced the performance of its detector cars. The first Sperry car incorporating the combined systems was placed in service in 1959. Within a year or two all its detector cars had been so equipped.

However, experience with the ultrasonic systems indicated they had limitations due to track conditions. For example, Cowan explained, irregularities in track surface could interfere with penetration of the ultrasonic energy into the rail. Likewise, such things as extra holes and torch-cut conditions could impose difficulties in getting accurate indications of conditions in the rail webs. Another limitation of the web-testing system was that it would not detect defects at the bolt-hole level.

● **Objectives of new system.** These limitations and others of a technical nature prompted Sperry to undertake redesign of the ultrasonic equipment along the following lines:

(a) Variations in the ultrasonic response due to grease on the surface of the rail would be overcome by means of an automatic compensating system.

(b) Shortcomings of the system due to variations in the physical size and shape of the rail would be overcome by adding an ultrasonic channel.

(c) Problems caused by conditions such as extra bolt or bond-pin holes and torch cutting would be solved by a system that would make it possible to differentiate between these and true defects.

(d) The additional ultrasonic channel mentioned in (b) would be used in conjunction with still another channel to assure that the entire web of the rail, including the area between bolt holes, would be tested.

The system that was evolved to accomplish these objectives consists of a pair of rubber-tired search-unit wheels over each rail. These units differ in major respects from the two search wheels formerly used. One of the latter wheels was used only for testing the rail heads and the other only for testing the webs. In the new system both of the search wheels enclose three transducers. Each wheel combines ultrasonic channels for testing both the heads and the webs. The beam paths of these channels are indicated and described in the diagram above.

● **Processing the impulses.** The ultrasonic energy which is received by

the transducers in the redesigned system is processed through amplifiers and correction circuits. The beams are then combined in an electronic data processing system programmed to indicate defects of a preset size by an alarm system. When an alarm condition exists it is recorded on counter tubes so that the operator is provided with information as to the size and possible type of the defect.

A simplified explanation of how the new system functions at a bolt hole with a 2-inch crack normal to the ultrasonic beam is shown on page 21. Signals are received from the bolt hole and the crack as the search unit travels from left to right. In the absence of a defect the alarm system will differentiate from the normal bolt-hole signals by resetting itself a short distance after the last echo is received from the bolt hole. However, under the conditions shown, the crack signal would continue to make the counter tube add until a pre-set alarm count is reached.

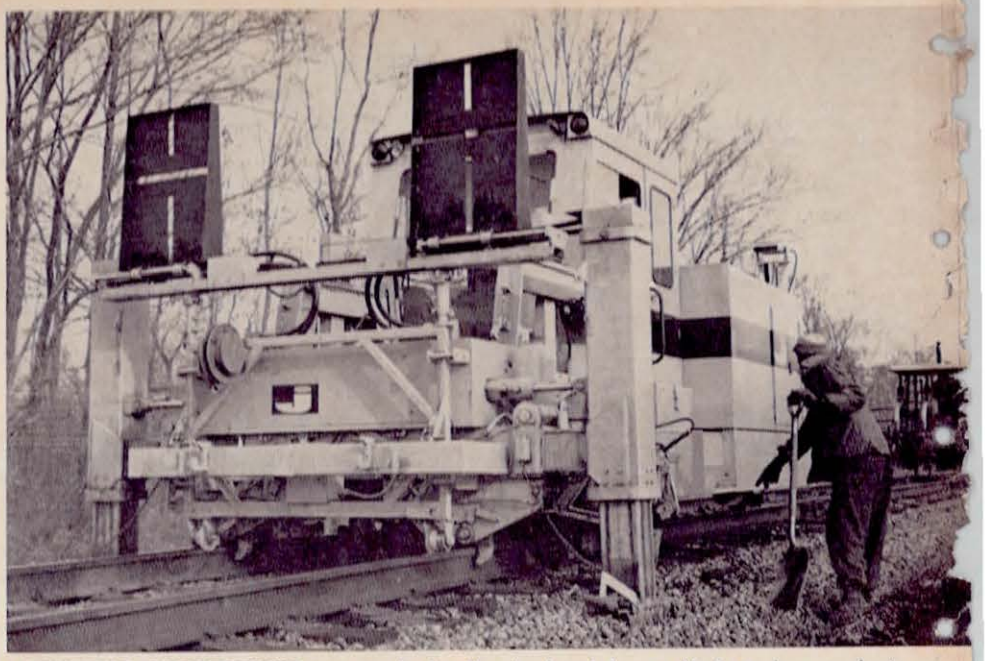
● **Monitoring system.** Cowan points out that because of the numerous channels involved in the new system it would be impossible for an operator to constantly watch the control center and test rail at the same time. To take care of this situation a monitoring system has been devised to serve two purposes:

(1) To alert the operator if any part of the system is not operating at peak efficiency.

(2) To record for quality-control purposes the degree of efficiency with which the system was operating at the time a particular rail was tested. This may then be reported to the railroad in cases of service failures occurring after test.

These objectives are accomplished by means of an additional pen which monitors two channels simultaneously, one for each rail, and switches every five seconds to the next pair of channels. With this system it is possible for the operator to determine within a matter of seconds whether there has been a failure in any of the channels. Since the system provides a permanent record of channel operation, it is possible at any time to ascertain whether the system was functioning at a point where a service failure occurred. The new system is being incorporated in the entire Sperry fleet of detector cars as opportunity presents itself. Patents covering the new features are pending.

Approximately 40,000 miles of track have been tested to date by cars incorporating the new system, says Cowan. He adds: "The increasing number of defects which has been detected in the joint area, as well as the rest of the rail, has already established the greatly improved detection efficiency of this test system." ■



ALIGNMENT CORRECTIONS are made by the horizontal ram that pushes against legs of the jacks. Thrust goes through same rail clamps by which track is raised.

Tamper-Liner gets workout on the IC

Automated tamper with newly added track-lining attachment has a production rate of 1,000 to 1,200 feet per hour.

One day recently Ray Fulghum, track supervisor on the Illinois Central at Fulton, Ky., pulled his car onto the shoulder of the highway at a point where it was paralleled by the IC main line. Fulghum and his passenger, a Railway Age reporter, got out of the car, climbed through the fence and scrambled up the embankment to the track.

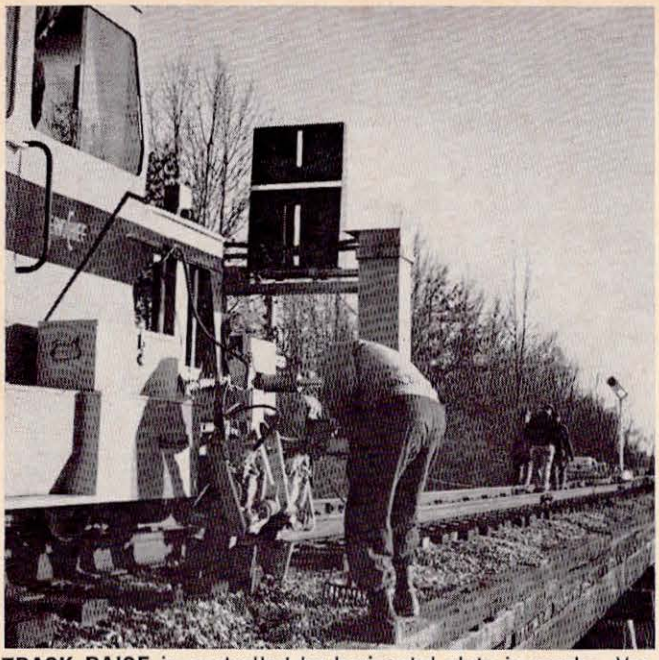
A short distance away, but steadily getting closer, was one of those highly mechanized track-surfacing gangs that have appeared on the scene in recent years. Even when measured by today's standards this gang was unusual because it was being spearheaded by an automated raising and surfacing machine recently fitted with a track-lining attachment.

● **Pilot model.** The machine to which the lining attachment had been added is known as the Jackson ServoChief. When fitted with the lining device it is called the ServoChief W/Liner. The unit that was seen in operation on the IC was the pilot model and was engaged in raising the track 2½ to 3½ inches and in correcting the alignment on both tangents and curves.

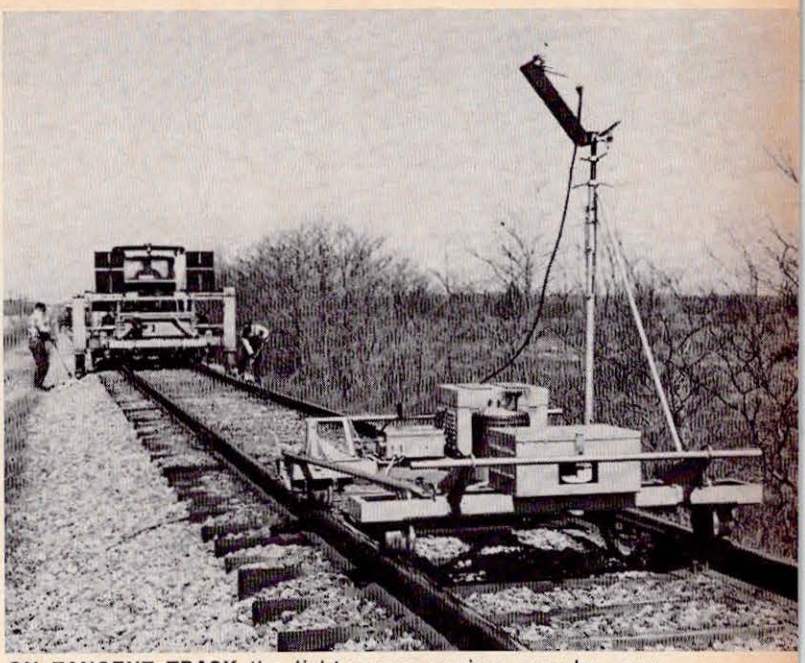
The Jackson ServoChief, which has been on the market for several years, is a fully automated track-raising and surfacing machine. Principal elements in the automated control system of this machine are a light source, a slotted mask and a sensing unit. The source is a spotlight-type light mounted on a self-propelled carriage that operates ahead of the raising and tamping machine. The carriage may be maintained at a fixed distance on a leash, or it may be operated at variable distances by remote radio control. The mask is mounted on the machine at the point of jacking and tamping and has a horizontal slot used for surfacing, which permits passage of a band of light for actuating the sensing unit mounted on the rear of the machine.

A scale on the light-source carriage permits the light to be set for any desired track raise. The jacking cycle proceeds automatically under the control of servovalves which, in turn, are controlled by electrical signals generated by the sensing unit.

● **Same principle for liner.** The system for correcting track alignment that has now been applied to the ServoChief



TRACK RAISE is controlled by horizontal slots in masks. Vertical slots transmit beam used for track lining.



ON TANGENT TRACK the light-source carriage may be operated on leash or by radio. On curves, it operates at leash end.

W/Liner is based on the same principal as that used by the automatic raising system. In other words, it involves a light source on the carriage, slotted masks (the slots are vertical in this case) on the machine, and a sensing unit on the rear of the tamper. There is a slotted mask over each rail. As applied to curves, the system for correcting alignment was designed on the premise that curves would first be measured to obtain corrected ordinates and that these would be "dialed" into the machine which would then shift the track accordingly.

For the track-lining system there are two light sources on the carriage. One is mounted on the same standard and at about the same height as the light source for the surfacing system. The beam provided by this source can be used when working on tangent track. In this case it is, of course, possible to operate the carriage variable distances ahead of the tamping machine.

The light source used for the lining system when working on curves, or at a fixed distance on tangent track, is mounted on the carriage just above the top of rail. It is inclined upward at an angle with the plane of the track to pass through a separate vertical slot in the mask to reach the sensing unit. A spokesman for the company explains that this arrangement provides a very accurate referencing system, while keeping the beam high enough at the machine to permit men to move freely around it without interfering with the beam.

● **Leash used on curves.** When working around a curve the carriage is operated on a leash a fixed distance of 100 feet ahead of the sensing unit on the rear of the machine. Since the mask, which is at the point where corrections in alignment are made, is 20 feet ahead of the sensing unit, the system used to measure curves must use 100-foot chords, with the ordinates being measured a distance of 20 feet from the rear end of the chord.

At each mask is mounted a horizontal scale graduated in tenths of an inch and a pointer. The scales are readily visible from the operator's station. The masks are movable and are controlled by pushbuttons on the operator's console, which actuate small electric positioning motors. When operating on tangent track the pointer is set at zero. On curve, the mask being used is moved until the pointer indicates the correct ordinate for the particular station. The machine then makes the proper throw automatically.

Hydraulic ram is used

Corrections in alignment are made by an hydraulic ram bearing against the legs of the jacks. The thrust is transmitted through the same rail clamps by means of which the track is raised.

● **Voltage determines direction.** In lining, the action of the light band on the sensor is to generate either a positive or a negative voltage. If the voltage is positive, the track is shifted to the right; if negative, the movement is to the left. It is said that the track is always thrown in the direction required for making the correction necessary at the particular point.

The high rail on curves is always the line rail and the low rail is always the grade rail. Both light sources are always placed over the low rail. For this reason the light sources on the carriage and the sensors on the rear of the machine are so arranged that they can quickly be moved from one side of track to the other depending on whether it is a right or left-hand curve that is being worked.

● **Operation on IC.** When seen in operation on the IC the ServoChief W/Liner was working in single-track 79-mph territory between Fulton and Greenfield, Tenn., 24 miles. A tie-renewal operation had been carried out in the territory during the fall and winter months. The work had been finished in December. The pilot model of the ServoChief W/Liner, operating ahead of a Jackson Track Maintainer, was put to work surfacing and lining the track about February 1.

Fulghum explained that this territory had been surfaced out of face only four years ago. It was being surfaced at this time only because of the tie-renewal operation. Because the line and surface were fairly good the forward carriage was being used with a 100-foot leash on both tangents and curves. (It is understood that production models of the machine will have 150-foot leashes.) If the line and surface had not been as good, a better arrangement on tangents, Fulghum said, would be to use the remote-control feature to spot the carriage at a high point and surface and line the track up to it.

The gang organization being used consisted of a foreman, an assistant foreman, two operators, two flagmen and four laborers, two with the ServoChief W/Liner and two with the Track

LUTHER MILLER

AS THE EDITOR SEES IT...

PASSING THE WORD AROUND—Our recent cover story on railroad research (April 18) carried the wistfully indignant subtitle: "The story that nobody (at least in Washington) seems to know." We're happy to report that this is no longer an accurate statement.

In his April 29 testimony before a U.S. Senate subcommittee considering urban transportation legislation, President Nils Lennartson of the Railway Progress Institute passed on to his audience Railway Age's documented claim that "railroads and their suppliers are the most research conscious of all transportation modes." He also repeated our editorial warning that policy decisions based on the theory that railroads are technologically mired in the 19th century are "apt to be in error."

Meanwhile, a growing pile of press clippings—from such papers as the Chicago Tribune, the New York Daily News, the Journal of Commerce—indicates that the railroad R&D story also got across to the men behind the men who make the laws.

A few years ago we launched an editorial campaign whose theme was simply stated (though not so simply brought to flower): "If the people are for you, everything is possible; if they are against you, nothing is possible." In helping to put the industry's best foot forward, we are simply trying to practice what we preach.

NOT FOR SALE?—NBC-TV's "Direct Line" program on Sunday, May 1, opened with a full-screen shot of Railway Age's May 2 cover. During the rest of the program our cover subject, John Gilhooley of the New York City Transit Authority, answered questions phoned in by viewers.

One lady from Queens phoned in to ask where she could buy a copy of Railway Age.

Commissioner Gilhooley replied that so far as he knew Railway Age wasn't for sale.

What he meant, of course, was that Railway Age wasn't on the newsstands.

But our circulation director, who is as proud of his paid subscribers as a mother hen, didn't sleep a wink that night.

TIPS FOR TRAVELERS—Fred Miles, the well-traveled managing editor of this paper, was planning a trip to North Africa a few years ago and bought one of those handy foreign phrase books. The first handy phrase was, "I have been shot. Where is the nearest hospital?" Fred cancelled his trip.

The substantial numbers of railroad men who will join this year's exodus to foreign parts—singly, or in groups (such as the two tours Railway Age will sponsor)—are not likely to encounter such an alarming situation as the above suggests. But foreign travel does have its hazards.

Traveling into Russia some years back, I left my train at Brest-Litovsk (on the Polish-Russian frontier) to change dollars into rubles—then discovered, with a fear and trembling based on years of overexposure to Eric Ambler novels, that I couldn't find the right train to reboard.

Neither could I read the numerous signs, since they were in the Cyrillic alphabet; and the one handy phrase I'd mastered, "My battery is dead," proved unhelpful. In the nick of time, as the train was pulling out and (I imagined) the NKVD was closing in, I was rescued by a friendly Russian who spoke French better than I did. His manner somehow suggested that he expected a tip, and I was about to hand him five rubles when he introduced himself—as the Soviet ambassador to Switzerland.

Moral: There's safety in numbers. Railway Age's Rail-Transit-Seminar Tour to six European cities (including Moscow) leaves July 19 and returns Aug. 4. Railway Age's Passenger Study Tour to six European countries leaves Sept. 6 and returns Sept. 20. Some space is still open.

Maintainer. The duties of the laborers included feeding ballast to the tampers and doing clean-up work. On this job many down ties were being encountered. The second tamper (the Jackson Track Maintainer) was tamping the down ties. When caught up with this work it was used for tandem tamping behind the ServoChief W/Liner, i.e., the latter machine tamped every other tie and the Maintainer tamped the alternate ties.

Flagmen were required to set out flags in accordance with Rule 27. The principal responsibility of the assistant foreman was to maintain contact with the dispatcher, using a portable telephone. The practice is to flag and stop locals and freights, which then "run the gang in" to the nearest siding, but to get into the clear in time to avoid interference with passenger trains and certain manifest freights.

• **Measuring the curves.** The practice on this job, Fulghum explained, was for an engineer and two laborers to go ahead of the gang to measure the ordinates on curves. In this work 100-foot chords were used. The ordinate of each chord was measured in tenths of an inch 20 feet from the rear end. Using these ordinates, a graphical representation of the curve was made. On this, a uniform line was plotted to smooth out the alignment. Corrected ordinates were then scaled off the graph.

On this job the practice was to write the corrected ordinates on ties where they could be seen by the operator of the machine. Another way would be to provide him with a list of corrected ordinates by stations.

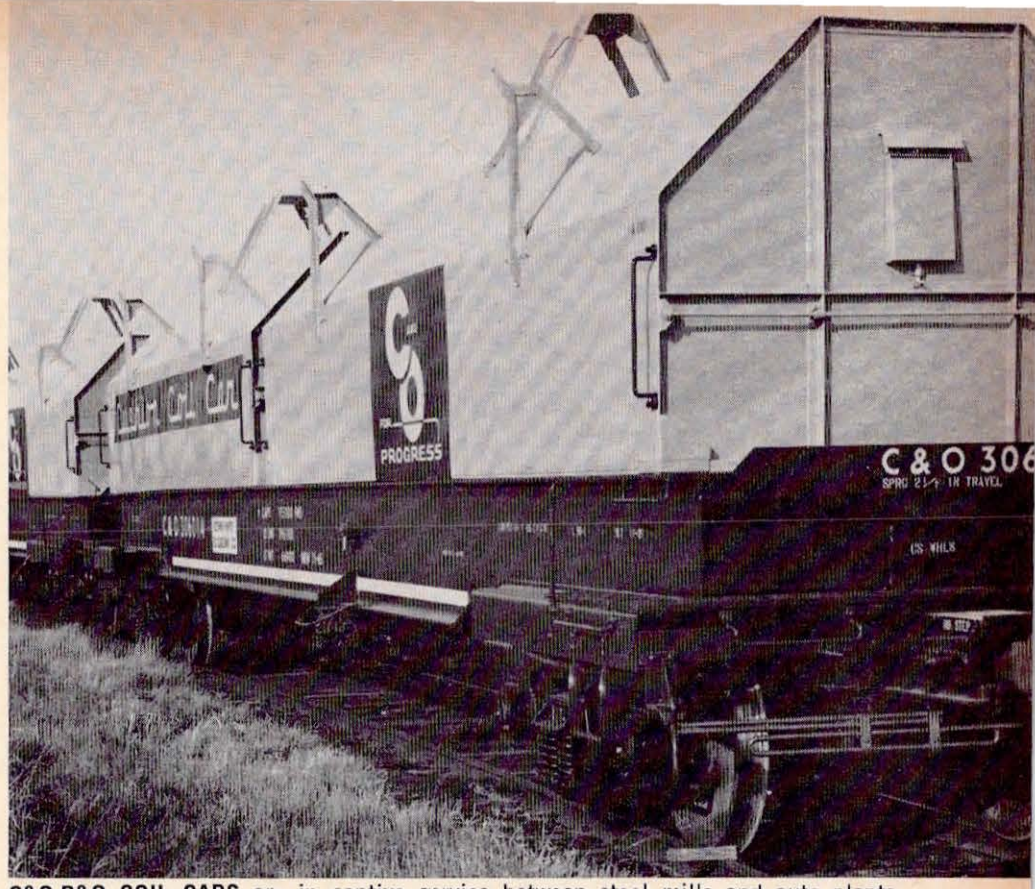
It is apparent that the manner of measuring curves is not important from the standpoint of operation of the machine so long as corrected ordinates at the proper position in the chords are provided.

The line-correction feature of the machine is designed to work within the cycle of the jacking and tamping operation. Under average conditions the production rate of the ServoChief is about 1,000 feet to 1,200 feet per hour, according to the manufacturer. On the IC job four insertions of the tamping tools were normally being made. On a day when the operation had six hours of on-track time, 7,310 feet of track were surfaced and lined. This figures out to be an average of slightly more than, 1,200 feet an hour.

The manufacturer reports that some modifications of the equipment were made after the demonstration on the IC. On a subsequent demonstration, using the ServoChief W/Liner in single operation to make a skin lift, the company reports that a sustained rate of 1,000 feet per hour was achieved. ■

Coil cars: C&O-B&O P&LE build up fleets

More and bigger units are being built to meet growing demand.



C&O-B&O COIL CARS are in captive service between steel mills and auto plants.

Special cars to carry coil steel have made the grade on the Chesapeake & Ohio and Baltimore & Ohio—so much so, that the two roads have placed an order for an additional 260 100-ton cars to bring the combined fleet up to 560 cars.

Evans Products, which is building the C&O-B&O cars, is also building 100 125-ton coil steel cars for the Pittsburgh & Lake Erie. These larger cars are believed to be the first of this capacity to be manufactured commercially.

B&O-C&O placed their first order for the coil steel-carrying cars over a year ago (RA, April 12, 1965, p. 16) and found them to be in such great demand that an additional 100 cars were ordered last December. Traffic demands have now prompted the two roads to order the additional 260 cars.

The cars are used in captive service between steel mills and auto plants.

● **The early models.** The first C&O-B&O order for 100 cars in April 1965 was for 100-ton-capacity units which featured lift-off covers, hydraulic cushioning and increased capacity. Earlier cars in coil service, usually gondolas, were of 70-ton capacity.

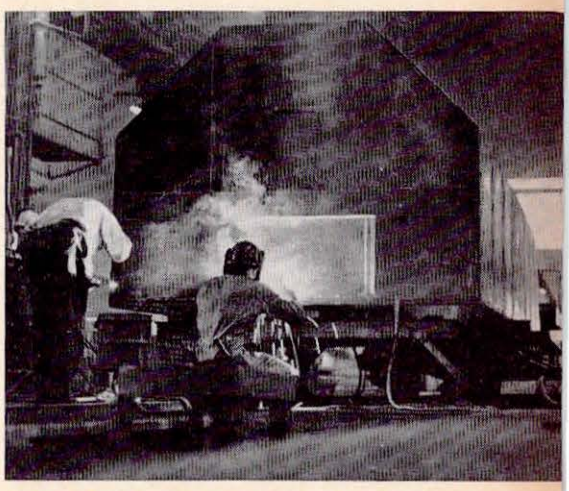
The special cars have a lading trough extending the entire length of each car to carry the coils. Special expanding DF bars separate the individual coils.

The latest C&O-B&O orders for the cars are for an improved version of the early model, which won widespread acceptance by coil steel shippers and receivers.

Although the new cars have longer loading troughs, their light weight is only 66,800 pounds, almost a ton less than the earlier, smaller units.

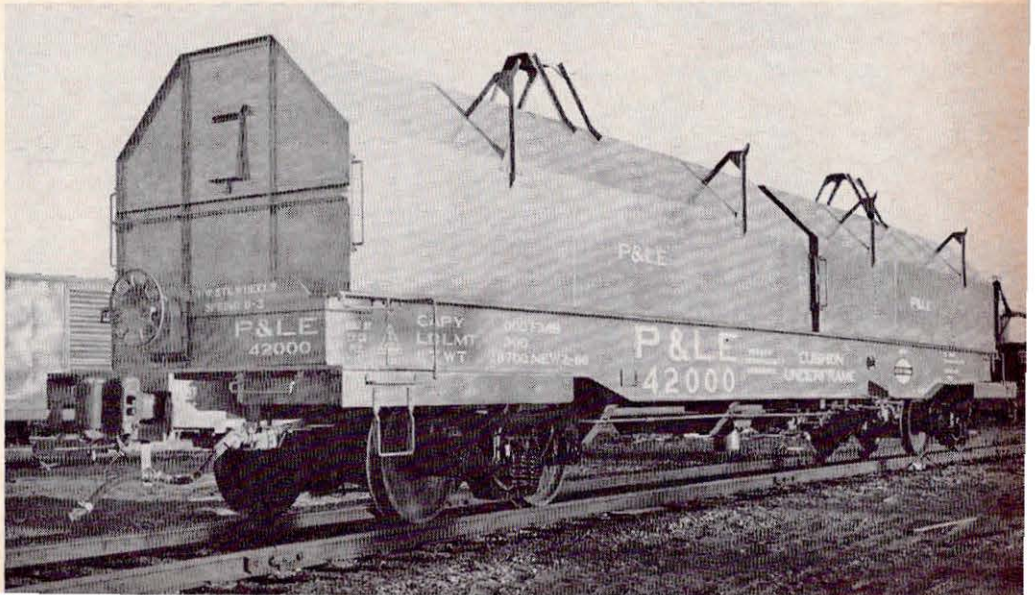
All cars are equipped with the lift-off covers to assure complete protection from the weather, eliminating expensive packaging of the coil steel. Simplified loading and unloading is made possible by the car's lift-off covers and newly-developed interior devices. Improved hydraulic cushioning prevents damage to steel edges in transit.

The side sills and cross members of the cars are made of high-strength steel. The original 100 cars ordered by the two roads had eight cross members, but later versions have only six, because once in service it was learned that



A COIL CAR HOOD is shown being fabricated at Evans Products plant.

A NEW 125-TON CAR is now being turned out by Evans. P&LE ordered first 100.



fewer and lighter cross members could do the job.

"Experience with the first cars," said a C&O-B&O spokesman," emphasized the need for still longer lading troughs and pointed up the desirability of reducing the number of lading cross members from eight to six."

To differentiate the newer cars from the first cars ordered, and to prevent intermixing of covers between the two car types, the words "Long Cover" are stencilled on one end of each cover; and the words "Long Car" are stencilled on the cars at the channel between lading troughs. The stencilling is in seven-inch letters to be clearly visible to crane operators removing and replacing covers.

The newer cars are 57 feet 8 inches long over coupler pulling faces, and 55 feet over couplers. Truck center distance is 40 feet six inches. Height over side sill is 5 feet 4¼ inches; over cover top, 11 feet, 3⅝ inches.

Loading troughs are 23 feet 4 inches long, increased from 22 feet one inch in the cars in the initial order. Each of the cradles, lined with heavy wood decking, can accommodate large-diameter steel coils. The six DF bars, adjustable in holes at the tops of the side sills, separate the individual coils. The bars, a variation of the standard DF design, are arranged to expand so they will fill the spaces between adjacent steel coils. This patented cross-member was developed by Evans engineers.

The lading trough is produced by the car's structure, integral with the underframe. The center sill of the car is a pair of Zee sections separated by a top cover plate so that a sliding sill of conventional sections may be installed inside. The 20-inch Hydra-Cushion unit is on the car's center line.

● **The P & LE's new cars.** The coil cars being built by Evans for the Pittsburgh & Lake Erie are equipped with two lift-off hoods, covering two 26-foot troughs, giving available loading space per car of 52 feet.

Aside from increased capacity, the P&LE's cars are similar to those built by Evans for C&O-B&O, Grand Trunk Western, Norfolk & Western and New York Central.

In designing the 125-ton car, Evans' Research & Development Division redesigned the car's crossmembers, retaining the same strength and expandable-face features, but decreasing the total weight.

In addition to the crossmembers, which are adjustable to make the lading completely snug in transit, the 125-ton cars are also equipped with shock-absorbing sliding sill Hydra-Cushion underframes designed to protect the car as well as the lading from damage due to impact. ■

Toronto transport show is a hit

Some 20,000 transportation industry people view wide range of products at the big exhibit.

"Call this a three-ring circus," cracked Irwin Haskett, Transport Minister of Ontario, at the opening of the Materials Handling, Transportation and Metallurgy Show in Toronto last week.

The four-day trade show had brass bands booming up and down the aisles of the big Coliseum in Toronto's Exhibition Park. Visitors received information on packaging from pretty girls, themselves packaged in abbreviated costumes.

● **400 exhibitors.** The show drew close to 20,000 shipper representatives, traffic managers and industrial buyers. There were more than 400 exhibitors of equipment and handling methods for the transportation and mining industries —showing everything from high-flying helium-filled balloons that move logs, to giant rail tank cars.

New York Central President Alfred E. Perlman was on hand for the opening of the Central's exhibition booth. Underlining the fact that NYC's Canada Southern Division qualifies the Central as a Canadian road, Perlman saw big opportunities for locating industry both along its Canadian lines and elsewhere in Quebec and Ontario. "The provinces contain both rich natural resources and vast urban markets," he said.

● **Flexi-Flo on display.** The Central's display was built around a working model of the Flex-Flo system for transfer of bulk commodities. There was also a display of the RPI's Golden Freight Car award, won for the Central by Flexi-Flo, and the railroad had traffic specialists on hand to give visitors information on its Flexi-Van container service.

Describing what Flexi-Flo has meant for the Central, Perlman said: "This revolutionary concept for the movement of bulk commodities enabled the Central to increase its volume of cement handling in 1965 to one million barrels—four times the amount in 1964. Cement volume is expected to soar to 3.5 million barrels this year."

The result? "Gross revenues from Flexi-Flo service in 1966 are expected to exceed $3 million," he predicted.

Concluded Perlman: "By innovating, by constantly improving service, by working with the shipper to give him the service he needs, the Central has become an ultra-modern, efficient ton-mile producer."

● **CN-CP exhibit.** Canadian National and Canadian Pacific collaborated to exhibit their joint-venture CN-CP Telecommunications, which makes fast telegram, teletype and Telex services available throughout Canada, and into the U.S. and Mexico.

Canadian National also sponsored an exhibit telling the story of the physical distribution cycle—and how CN can improve it.

On a siding just outside the Coliseum were seven specialized freight cars. Union Tank Car and its Canadian affiliate Procor showed a giant tanker with 50,000-gallon capacity and two other tankers; North American Car showed the Naquamatic covered hopper, PD 3900 covered hopper, a three-compartment covered hopper with quick-dump gate built in Canada by Hawker-Siddeley, and a two-compartment top-and-bottom-unloading tanker with a capacity of 17,167 Imperial gallons, built in Canada by Davieship (RA, April 25, p. 42).

Buffalo Brake Beam displayed its new air-operated disc brake mounted on a truck. Steadman Industries showed aluminum insulated containers now in service on the CN and CP.

SKF displayed all types of roller bearings; representatives said SKF is building an additional $10 million manufacturing facility, to handle new business in Canada.

Industrial Process Equipment (IPE) had rail car thawing equipment to show; Suburban Metal Industries displayed Load-Lok tie-down equipment, cargo control equipment and Stak-Hoist crane equipment.

● **Track equipment.** Sylvester Steel Products displayed W. T. Cox's railroad vehicle; the firm is also acting as representative for Kalamazoo Manufacturing, the U.S. track equipment supplier.

Another U.S. track supplier, Kershaw, was represented at the show by Lyman Tube & Supply, which holds licenses from 45 firms. Lyman displayed Ellcon-National's brakes and slack adjusters; Racon's grade crossing monitors, solid state locomotive beacons and solid state relays; United Tube's welded tubing and racks; Morton Manufacturing sheeting; Su-Perfect oil seals and gaskets; Trans-Lite's car interior

(Continued on page 38)

Space age comes to railroads

- **Automation for main lines and rapid-transit systems was discussed at last week's ASME-IEEE Railroad Conference.**
- **Advancing technology involves power distribution, propulsion, safety of high-speed trains, and appraisal of track.**

The rapid advance of rail technology was evident in San Francisco last week. Topics ranging from freight-train automation to a-c propulsion for rapid transit and main-line railroads were discussed by the ninth annual Railroad Conference of the American Society of Mechanical Engineers and the Institute of Electrical and Electronic Engineers. Applications of numerous space-age techniques to solution of rail transport problems were reported.

● **The growing needs.** That there was need for such application was evident not only from the Railroad Conference discussions but also from the technical advances in competing transport modes reported during the National Transportation Symposium held in San Francisco simultaneously. ASME and IEEE joined with the American Society of Civil Engineers in sponsoring the Symposium. W. M. Keller, AAR vice president-research, told that group that the tripling of the volume of intercity freight traffic which occurred between 1939 and 1964 will be matched by continued growth in the years ahead.

"Extrapolation of present trend curves for the U.S. shows that about two trillion ton-miles of intercity freight will be moved by 1970," he said. "Regardless of the precision of this figure, it appears that the transportation industry should plan to handle a traffic volume of this general magnitude. In spite of vastly increased highway mileage, it was evident that the railroads will need to carry increasing tonnage in the future."

● **Changing patterns.** Keller described some of the changing production and consumption patterns which are presenting new transportation challenges. "Handling of goods will change as rapidly as technology can be developed to reduce manual handling," he said. "Methods of distribution will change to adjust to new merchandising methods.

"Care for the future will show some departures from those we are accustomed to seeing," continued Keller. "All will be in the higher capacity range. Special designs will continue to be developed . . . and built as volume of traffic permits. The real work horse of the future may become the flat car. With this car and containers, almost any kind of traffic arrangement can be set up. When needed, these cars can be used in piggyback service. Additions of flat cars, and of special type hopper and tank cars, will be made to the car fleet. Perhaps use of traditional box cars will begin to decrease as these other cars take increasing traffic."

● **Effects of automation.** Successful automation of heavy freight trains on long runs was reported by C. M. Hines and N. P. Erkel of Wabco's Westinghouse Air Brake Division. "Heretofore," it was noted, "successful automation of freight trains has been limited to shuttle service of short trains for relatively short distances. The first application of Wabco automated equipment was made to an ore train. During the past four years, extensive research and development has been performed, culminating in formal customer acceptance of the completed project in August 1965."

The route involved is a single-track, 75-mile line connecting a mining operation in a western state with a main-line railroad. From the mine, at an altitude of 8,295 feet, the line descends 15 miles on grades up to 2.0% to cross the Continental Divide. It continues to drop on grades no greater than 1.1% to reach the junction at 6,411-feet altitude. The 100-car trains, which average 13,000 tons and are made up of normal interchange equipment, traverse not only the grades, but 10-degree curves and do this in temperatures ranging from minus 50 degrees to 100 degrees F. The Westinghouse engineers added that there had been six months of operation with no attention or servicing of the ATO (automatic train operation) equipment and with no failures.

Two-man crew

Trains, manned by an attendant and a switchman, are actuated in the automatic mode by inert wayside coils and inductors which transmit speed, highway crossing and stop signals to the passing locomotive. The locomotive is fitted with the following devices:

— Locomotive control console on which the manual, remote or automatic mode of operation is selected and by which manual control is effected since these functions have been removed from the regular control stand and brake valves;

— Velocity control programmer in which necessary electrical and electronic apparatus control a train and coordinate train operation with wayside signals, road profile and operating requirements;

— Brake control center that converts electrical signals from the velocity control programmer into pneumatic functions to control train and locomotive brakes.

● **Integrity checker.** The last car of the train, a standard open-top hopper or ore car is fitted with a portable device called a brake-pipe integrity transmitter which functions to monitor brake-pipe pressure, assuring an adequately charged train before permitting automatic operation. The train is handled by a five-unit locomotive, both A units of which are fitted with the ATO equipment. The locomotive does the road haul and also performs the switching and train make-up at the mine under remote control.

"The customer decided on automation during the construction phase of the operation before acceptance and operation of the complete mine and transportation facility," said the Wabco engineers. "This was the basis for starting with a two-man crew instead of the normal four- or five-man crew. Labor-savings thus accrued during the application of automated equipment and unnecessary labor personnel did not have to be eliminated. ATO permits the locomotive attendant to be less skillful and, therefore, lower paid than the highly skilled engineman operating a standard locomotive. Lading and equipment damage can be reduced since ATO insures optimum train handling practices and eliminates human inconsistencies."

● **Rapid transit ATO.** Automatic train operation for the Bay Area Rapid Transit were discussed by W. P. Quintin, Jr., of Parsons Brinckerhoff-Tudor-Bechtel, BART engineers. "At the present time specifications for automatic train control for BART are nearing completion," he reported. "These are primarily performance specifications. They are based on experience in the signaling and control industries, special studies made by BART engineers, and demonstrations made on BART's Diablo Test Track at Concord, Calif., during 1965 and early 1966."

As with the freight-train automation

High speeds pose completely new problems

discussed by Hines and Erkel, the variations in train performance produced by different operators are to be eliminated with BART's ATO. Trains carrying 30,000 seated passengers per hour at speeds up to 80 mph on 90-second headway require consistent train performance to maintain stability.

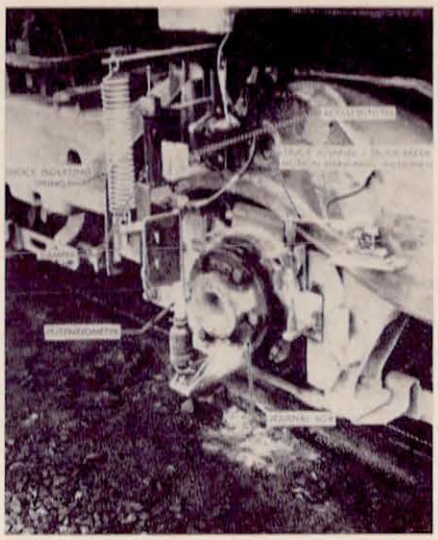
"The physical analysis of the matter," explained Quintin, "quickly showed that variations due to individual motormen's artistry would be intolerable. Moreover, convergence of routes necessitates close and continuous system control of trains in their time pattern. As a result, deviations in schedule conformance must be corrected while they are small and before they compound into large ones. The unorthodox, but actual intention to avoid standees can be controlled only by rigid avoidance of mis-spaced trains arriving and departing stations.

"Automation enables a job to be done which cannot be done under normal operation—it is not intended to conserve operating staff," said Quintin. "The objective is unachievable with manual operation because there are variations in individual skills which are too great to tolerate.

"In other parts of the U.S. and abroad, there are a number of instances in which automatic train operation is either newly introduced or seriously contemplated. Most of them require a man to perform some function of train operation and the remainder are done automatically. Such manual operations concern door closures, train starting, or train accelerations or combinations of these acts. These features are unacceptable absolutely in the BART automatic train-control system."

● **A-c vs d-c.** Another of the BART developments—power supply—was discussed by C. K. Olsen, PBTB engineer. Soon to be decided is the type of current to be delivered to trains on the revolutionary San Francisco area transit system. As with train control, the traditional—in this case direct-current, third-rail distribution—may not be utilized.

BART's Diablo test track has been appraising both direct current and alternating current. "We have successfully demonstrated that a three-phase, 4,160-volt, a-c contact rail and collector system can be utilized as a propulsion power supply system for rapid transit," stated Olsen. "This has been achieved through the assistance of federal and local funds, the cooperation of manufacturers and engineers, and the application of recent advances in the development of polyethylene and epoxy-fiberglass insulating materials.



RAIL PROFILE is consistently indicated by instrumentation on journal box.

"The a-c system offers many advantages over the d-c system, including the utilization of commercial frequency power, regeneration, elimination of stray currents, lower operating costs and, perhaps, even lower installed costs. Whether to use a-c or d-c as a propulsion-power-supply system has evoked the interest of transit engineers for many years. Whether a-c or d-c is chosen for BART, it will only be after all of the factors have been explored and considered for the special needs and criteria of this system."

● **A-c traction motors?** For the past several decades the tractive power of diesel-electric and many electric locomotives and multiple-unit cars has been delivered through series type d-c traction motors. The squirrel-cage a-c induction motor was cited during the Railroad Conference as possibly a more attractive propulsion drive in the light of recent advances in solid-state electronic power devices and control circuitry.

L. J. Lawson and C. J. Amato of Lear Siegler's Power Equipment Division described a frequency control system which makes possible development, at any speed, of maximum torque by an induction motor. This type of motor has not been applied to variable-speed drives like those needed in locomotives in the past because there has been no completely satisfactory method for efficiently controlling motor torque.

Availability of the thyristor (a solid-state device) with substantial current-switching capacity has permitted development of a "black box" unit which is a source of polyphase electrical power that can be controlled continuously in frequency over a wide range. The resultant a-c propulsion has already been incorporated experimentally in an Army vehicle; the engineers see its potential as a locomotive drive. They cite the squirrel-cage motor's lower cost, greater ruggedness, absence of brushes, smaller size and lower weights as among its advantages over the d-c motor.

● **How smooth?** A new instrument for rapidly measuring the profile—or smoothness—of track was described by two General Motors engineers as having immediate application in high-speed rail transportation studies. The rail-measuring instrumentation can be installed directly on the truck of a locomotive and has accurately measured the profile of track at speeds up to 60 miles per hour, E. B. Spangler and H. A. Marta reported. They said that not only could the instrument have immediate application, but that it was designed for meeting future needs of the railroad industry.

Developed by engineers at the General Motors Research Laboratories and GM's Electro-Motive Division, the new rail-measuring instrumentation is based on the same operating principles as the Road Profilometer. The Profilometer, they stated, is gaining wider usage as a technique of rapidly measuring the profiles of roads, streets and even airport runways.

The two engineers explained that "with the current interest in high-speed transportation, the rail and rail vehicle designer will be faced with problems that may not exist in present-day rail vehicles. The high-speed rail vehicle is sensitive to wider band of periodic inputs from the rails."

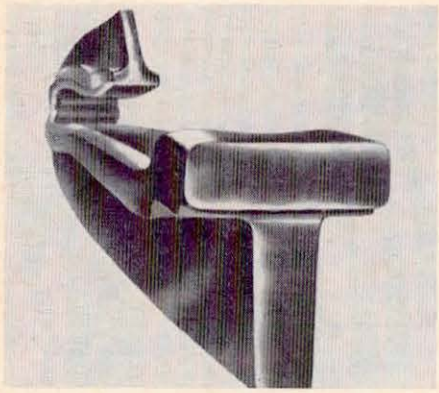
They said their instrumentation was developed with such requirements in mind. Engineers can use it to rapidly inspect tracks and measure those characteristics important to high-speed rail vehicles.

The instrumentation consists primarily of equipment located around the journal box for measuring its motion with respect to an inertial reference system. Signals from the instruments are then processed in a specially designed on-line computation package. Oscillographs or magnetic tapes are the output.

"Improvements in both rail vehicle systems and track inspection and construction techniques can contribute to future economy and safety of railroad operation by reducing damage and wear

(*Continued on page 31*)

NEW **PRODUCTS** REPORT

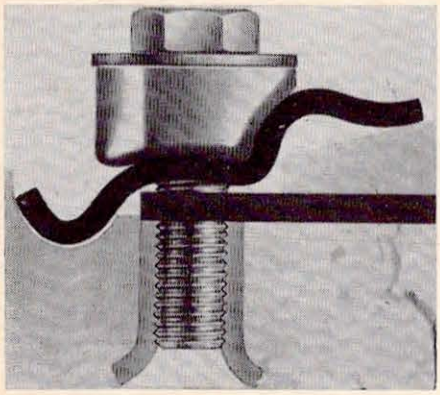


Rail Anchor (RA-1)

A companion rail anchor to the Improved Fair—the XL-1—has been announced. It is said to be designed to provide the same advantages of the "T-Power" design of the Improved Fair while reducing the total per-year investment in rail anchors.

The anchor will satisfy all needs for holding power and protection of the ties. Among the features claimed for the XL-1 anchor are that it provides full bearing area, a jaw-grip design for providing high holding power, an overdrive stop to assure proper application automatically, full rail-base contact with anchor platform, and a single striking face for fast, accurate application, either by hand or machine.

The anchor prolongs tie life, cannot walk over the tie, is easily reapplied to smaller size rails, is easy to install, requires no digging of ballast, is equally effective on continuous-welded rail and conventional rail and will not damage the rail. *Railway Products Division, Poor & Co.*

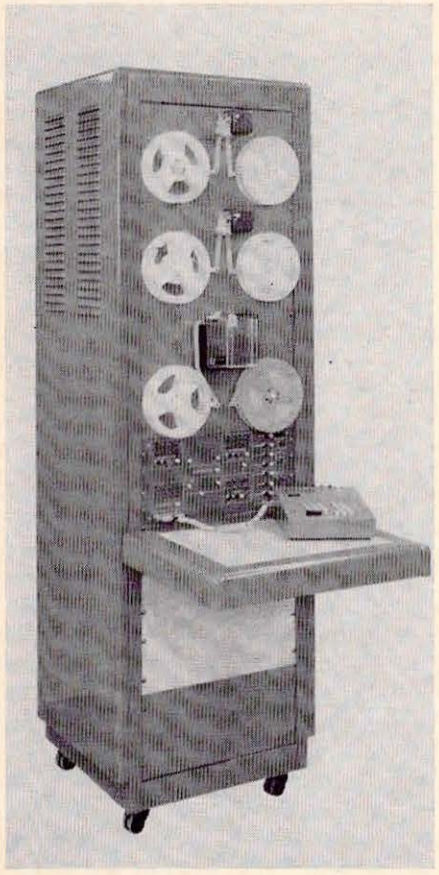


Concrete Tie Fastener (RA-2)

Flexibility, resiliency and high gripping power are the features claimed for a new concrete tie fastener called Fair-Flex. Its design includes a two-way Dy-Namic Action clip and a special Nylon Adaptor which are said to provide a fastening that compensates for the rigidity of the concrete tie.

The Adaptor distributes uniformly static and dynamic loads to which such ties are subjected, and provides a dampening and absorptive action against impacts which otherwise might be injurious to the tie, bolt and fastening. The Two-way Dy-Namic Action Clip is said to control both the transverse and longitudinal action of the rail while permitting the rail to flex.

In addition, it is claimed that Fair-Flex has a double-action flexibility that holds the rail against creepage; and its design prevents overstressing of the clip due to bolt tension, as well as making it easy to remove the entire assembly quickly. *Railway Products Division, Poor & Co.*



Tape Perforator (RA-3)

The new System 128—a complete tape preparation, duplication and verification system—consists of a series 110 paper tape punch, two series 119 paper tape readers, a series 117 encoding keyboard and an indicating master control panel. The System 128 is housed in a free standing cabinet, operates from 115 volts, 60 cycles, and can punch and read paper, mylar or metallized mylar tapes. *Ohr-Tronics, Inc.*

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WATCHING **WASHINGTON** WITH WALTER TAFT

TAFT

THOSE NORTHERNS CASE DISSENTS—A former president of the AAR, the late Judge R. V. Fletcher, used to say: "Unfortunately for the railroads, in many cases, though fortunately in others, dissenting opinions do not prevail." On that basis, the Northerns merger case at the ICC was an unfortunate one. But the dissenters, as often happens, wrote opinions more lively than the majority report. They went down fighting hard against the Commission's adverse decision.

That 6-to-5 ruling denied applications of the Great Northern, Northern Pacific and Burlington for authority to merge into a new company—the Great Northern Pacific and Burlington Lines, which would have leased the Spokane, Portland & Seattle (RA, May 2, p. 27). The dissenters were Commissioners Howard G. Freas, Kenneth H. Tuggle, Rupert L. Murphy, Laurence K. Walrath and Abe McGregor Goff. All except Murphy filed separate expressions. Sharpest of them came from Tuggle and Walrath.

ABDICATION OF DUTY CHARGED—Tuggle took off accusing the Commission of having abdicated its duty under the National Transportation Policy. He also said the majority talked with "demagogic overtones," and he argued that the proposed merger had been proved consistent with the public interest. So, the Commission had "no choice but to approve it." The majority's determination that prospective advantages of the merger had to outweigh prospective disadvantages "beyond a reasonable doubt," amounted to imposing "the extreme evidentiary burden heretofore imposed only in criminal cases, and nowhere, in our system of jurisprudence, applied to civil proceeding," Tuggle also charged.

He found the record pregnant with worthwhile suggestions for conditions on which the merger could be cleared to bring a "much improved transportation system to the territory involved." And the majority's reliance on data, "relevant merely to the present competitive situation," inspired him to quote: "Of all sad words of tongue or pen, the saddest are these: it might have been."

CHANCE FOR BOLD ACTION MISSED—Walrath, who accused the Commission of missing an opportunity to exercise transportation statesmanship, had this basic text: "The moment of decision comes once to every man and nation." He thought the case was one of those which come along "with rare frequency" to offer the Commission a chance for "the bold and imaginative, not to say dynamic, statement of regulatory policy."

Walrath also emphasized the Commission's broad authority to impose conditions in approving mergers. This Section 5 power embraces "the whole spectrum of the public interest in transportation," he pointed out. It is thus unlike Commission powers under other sections of the Act, where there is—"and properly so"—a vast difference between what is desirable in the public interest and what may be required.

SOMEONE CLOBBERING—Walrath's example of this cited the Commission's power to require through routes and rates. Under Section 15, this is limited by prohibitions against short-hauling and use of the power to help carriers in need. In merger cases, however, the power to impose through-route and joint-rate conditions is unrestricted. Railroads involved are free, of course, to abandon the merger if they find required conditions too burdensome. Walrath though it might be refreshing to see what the "new managements" of the railroads would do about a merger approved with conditions affording proper protection to affected parties and the public interest.

The majority's discounting of applicants' fears of future traffic losses to competitors reminded Walrath of the story about the groggy fighter being assured by seconds that his opponent wasn't laying a glove on him. "Watch that referee, then, because someone out there is clobbering me," the fighter replied.

(*Continued from page 28*)
and tear on both the rail vehicle and the track on which it operates," they said.

● **How comfortable?** The technology developed by General Motors for measuring track smoothness may answer some of the questions raised by engineers of the Castings Division of General Steel Industries in the course of appraising the ride of the GSI General 70-E truck developed for BART. BART rating of the trucks developed by several manufacturers consists primarily of measuring truck and carbody behavior resulting from a given track condition.

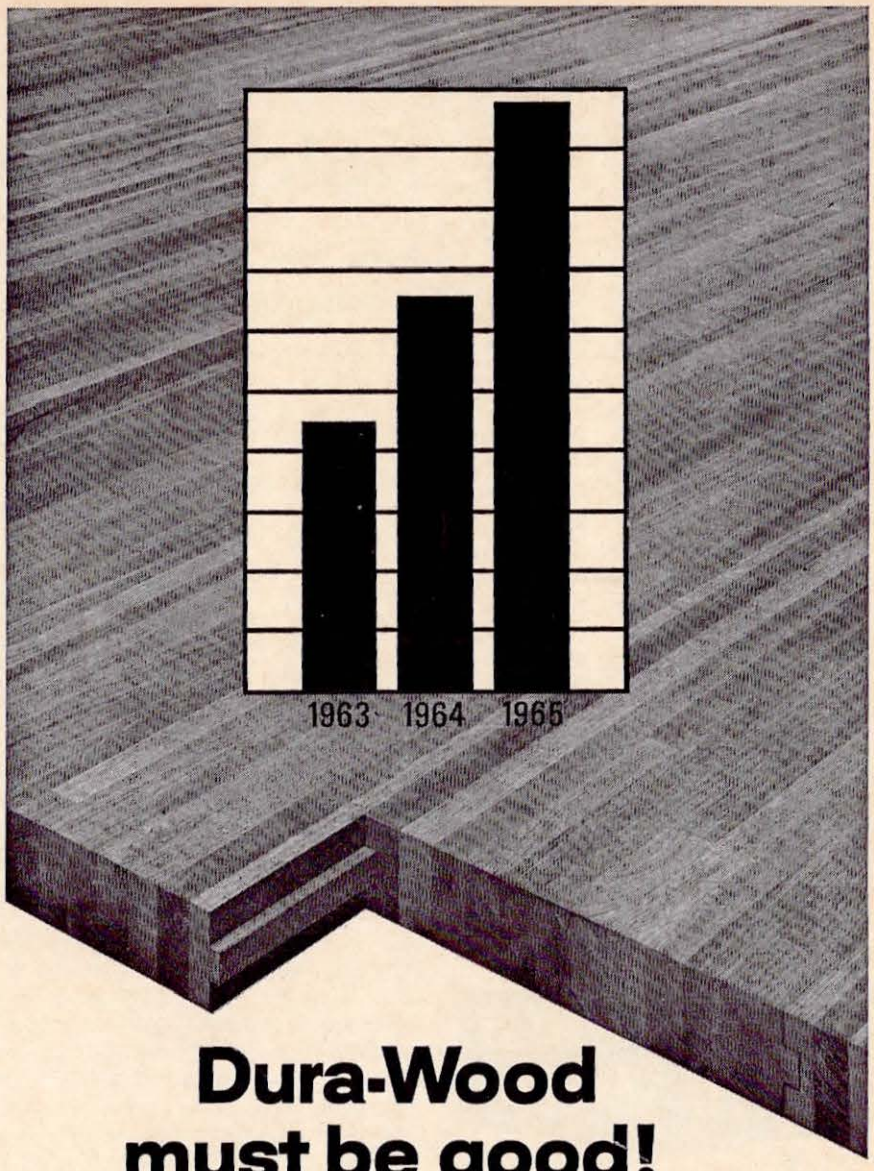
"There are, however, other related areas which should be thoroughly explored in order to develop the best possible system from a riding performance standpoint," reported GSI's W. E. Burdick and K. L. Jackson. "Key factors in riding quality are track input, car response, car output, and comfort criteria."

Disturbance fed into the truck suspension from the rail—track input—depends upon variations in track profile, alignment and cross-level. "There also appears to be growing evidence that track input is a function of the weight of the car passing over the rail and of the instabilities producing wheelbase hunting," observed the engineers. "A more thorough understanding of the nature of rail input is needed along with proper instrumentation for recording both vertical and lateral excitations. Finally, methods for relating these to the behavior of the car must be developed and refined."

● **How safe?** The systems analysis approach to safety of aerospace vehicles can be applied to high-speed surface transportation, J. Lederer, director of the Cornell-Guggenheim Aviation Safety Center, told the Transportation Symposium. Such analysis should reduce the number of accident and weaknessess that may appear in new surface vehicles operating at proposed speeds up to 160 mph, he said, suggesting that high-speed trains may represent greater risks than aircraft in certain situations, such as malicious mischief.

If what is now known in seat, aircraft cabin and structural design is incorporated in the design of high-speed trains, the chances of surviving a crash at speeds of 150 mph should be favorable. "High speed operations," he explained, "require high acceleration. This means lighter structural train weight than heretofore to reduce power requirements. The new trains may be in the same structural class as aircraft from the standpoint of crash survival."

Lederer suggested that high-speed ground vehicles might be test crashed



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as has been done with aircraft or, at the very least, that computerized simulations be made. He noted that it is important to learn from accident investigations. "Investigations conducted by the ICC of railroad and interstate bus accidents show a high order of competence," he continued. "But little or no attention is given to the causes of injuries suffered in an accident, as is done in aviation. Knowledge of new methods of design, of aerodynamics and of human tolerance will be needed. It is very important to investigate incidents as well as accidents and to disseminate without delay the lessons learned." Study must be given to human factors involved in maintenance and operation of high-speed trains.

The aerodynamic pressures and structural stresses produced by the passing of two 150-mph trains will warrant investigation. The tendency of the cars to be drawn together will require "extraordinary" attention to window construction.

While aviation technology has much to offer, Lederer suggested that ground transport has its peculiar problems of aerodynamics, malicious mischief and some aspects of collision avoidance which will have to be solved. ■

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Growing CA economy holds hope for rails

Some lines plan improvement programs to handle larger share of traffic anticipated as a result of area's new Common Market.

Guatemala City, Guatemala

Central America impresses me as being definitely on the move—upward. Most of its railways appear to be confident of sharing in the growth. Their slice of the traffic pie, they concede, may be smaller. But they think the whole pie will be enough bigger to insure their growth in absolute, if not in relative, terms. With that in mind, many of them are proceeding with (or at least preparing) programs of upgrading and improvement.

● **Problems.** Admittedly, they face many problems. Hauls are necessarily short, for the simple reason that no Central American railroad (except the International of Central America) even owns or operates more than one or two hundred miles of main line. Except for the U.S.-government-owned Panama Railroad, they are all narrow-gauge, with relatively light axle-loadings and restricted clearances. Grades and curves are little short of ferocious. Equipment, save for some new locomotives, is on the senile side. Train speeds are low. And, at least here in Guatemala, labor practices are as burdensome and restrictive as can be found anywhere.

Added to all those built-in problems is the emergence of highway competition. Central American governments, like others elsewhere, have tended to pour into highways rather than railways whatever funds have been available for transport facilities. Granted, highway development is still somewhat spotty, both in coverage and in quality. But it doesn't take a New York Thruway or a Pennsylvania Turnpike to set up a competitive threat to a short-haul, low-speed, light-load railway.

● **Turning point.** With all those obstacles in front of them, it seems little short of miraculous that Central American railroaders can retain any degree of optimism. Yet they do —and that optimism appears to have some solid foundations in fact.

As one example, the impressively alert general manager of Nicaragua's Pacific Railway told me he thinks his government may shortly reverse its fiscal policy, at least to the extent of making some money available for railway as well as highway development. When and if that happens, he knows exactly what he wants to do.

As another example, just a few days before I reached El Salvador the national government had budgeted $720,000 as working and operational capital for the Salvador Railway. The general manager, the local press, and the American Embassy all agreed that further funds were likely to be made available in the near future for capital improvements. The railway has its program ready.

Honduras' national railway (which I was unable to visit) has just announced that it may soon be buying some diesel locomotives and freight cars, and building a short new line.

Beyond those national plans, the old idea of connecting most of the CA railways into a single, good-sized system with long-haul potential is by no means dead. To tie up IRCA with the Nicaraguan railway, and that in turn with one or both of the Costa Rican lines would pose no great engineering problems—nor would the one gauge break (between El Salvador and Nicaragua) be too difficult from an operating standpoint.

● **Grounds for optimism.** Set those specific plans and hopes against the background of Central America's burgeoning economy, and it becomes clear

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that the area's railwaymen have good grounds for their modest optimism.

That the economy is growing is beyond question. It may be growing partly because of American aid, or increased investment by American industry. Firestone Rubber, for example, is clearing a huge acreage of land on the outskirts of San Jose for a new tire factory. Private planes bearing well-known U.S. corporate names are a fairly common sight.

The economy is certainly growing because of the Central American Common Market, embracing Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua. Simple proof of that pudding is the single fact that trade among those five countries has increased four-fold in the Market's five years of existence. Continuation of such expansion could conceivably be the spur to motivate the international railway links just mentioned.

Personally, I would add a fourth reason for economic growth—that the legendary "manana-siesta" tradition, if not wholly dead, is at least on its last legs.

"We have discovered the virtue and necessity of work," said the Nicaraguan railroader already referred to. And here in Guatemala a tourist guide told me off sharply when I half jokingly suggested that the regular noon-time closing of stores was for siesta purposes. "No siesta," he said. "We are all much too busy for that. We just like to take a long lunch, at home, and our traffic is so heavy it takes some of us a long time to get there and back. We open up early and close late to make up for it."

I learned later, incidentally, that that guide practices what he preached. Part Indian, with only a third-grade education, he spends his spare time reading everything he can get hold of on the history and culture of his country, so he can "make a better life for his children."

Those men may be exceptional. It's perilous to pose as an expert after only two hurried weeks divided among five countries. But I suspect they may be more nearly typical of what's happening in those five countries today. Certainly there is a long way to go. In lands where many people don't even wear shoes, self-levitating bootstraps are hard to find.

But if the straps can be found—if growth can be continued at a pace fast enough to keep up with or ahead of the booming birth-rate—then it's my guess that Central America is in for its brightest years. And, out on a limb, I suggest that its railways will share in the brightness.

—Gardner C. Hudson

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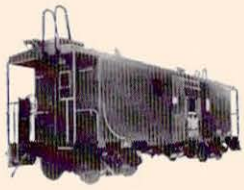

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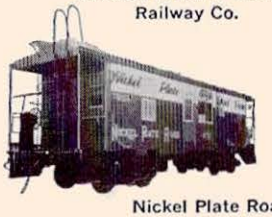

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PEOPLE IN THE NEWS

ASHLEY, DREW & NORTHERN.—**Robert G. McManus** named manager of engineering, Crossett, Ark.

ASSOCIATION OF AMERICAN RAILROADS.—**W. H. Chidley** appointed executive vice chairman, Mechanical Division, succeeding **Fred Peronto,** retired. Mr. Chidley joined the division as assistant executive vice chairman about 16 months ago, after 29 years with the **New York Central.**

ATLANTIC COAST LINE.—**J. M. White,** communications engineer, Jacksonville, Fla., appointed assistant chief engineer communications there, succeeding **N. L. Altland,** who retired May 1. **B. Leon** named communication engineer, Jacksonville. **J. L. Mears, Jr.,** appointed field engineer communication and signaling, Waycross, Ga.

BURLINGTON.—**E. J. Brown,** chief engineer, named assistant vice president-operation, Chicago. **William C. Doney,** assistant superintendent, Aurora division, advanced to assistant to general manager, Omaha. **Gary G. Widle,** trainmaster, Aurora, Ill., appointed assistant superintendent, Chicago and Aurora divisions, Aurora. **Thomas E. Hudson,** superintendent of transportation, Chicago, promoted to terminal superintendent, Kansas City, succeeding **William Loos,** transferred to St. Louis.

Donald V. Sartore, assistant to the chief engineer, advanced to chief engineer, to replace Mr. Brown. **Wilson A. Wade,** general agent, Seattle, named traffic manager-lumber and paper products, Chicago. **Mark C. Leininger,** chief special agent, Chicago, appointed manager security-freight claim prevention.

CANADIAN FREIGHT ASSOCIATION.—Effective May 1, **Paul J. Lavallée** and **Thomas J. A. Law** appointed assistant chairmen and **George L. Orendi** named administrative officer. **W. P. Coughlin** is chairman at 1162 St. Antoine Street, Montreal 3, Que.

CANADIAN PACIFIC.—**J. E. Graham** appointed manager, Freight Division Bureau, Winnipeg, Man.

CHESAPEAKE & OHIO.—**Richard D. Cooper** promoted to district manager of the new trailer service office located in Room 817 Healey Building, Atlanta, Ga. The new of-

(Continued on page 37)

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MARKET OUTLOOK

Carloadings

Loadings of revenue freight in the week ended April 30 totaled 574,093 cars, the Association of American Railroads announced on May 5. This was an increase of 30,454 cars, or 5.6%, compared with the previous week; a decrease of 18,889 cars, or 3.2%, compared with the corresponding week last year; and an increase of 20,951 cars, or 3.8%, compared with the equivalent 1964 week. Ton-miles generated by carloadings in the week ended April 30 are estimated at 14.3 billion, an increase of 2.6% above the corresponding week of 1965, and 14.2% above the 1964 week.

REVENUE FREIGHT CARLOADINGS
For the week ended Saturday, Apr. 30

District	1966	1965	1964
Eastern, including Allegheny and Pocahontas ..	221,478	244,675	227,715
Southern	110,847	118,916	102,865
Total Eastern and Southern Districts	332,325	363,591	330,580
Northwestern .	83,470	78,284	74,677
Central Western	117,673	111,111	109,667
Southwestern .	40,625	39,996	38,218
Total Western Districts	241,768	229,391	222,562
Total All Roads	574,093	592,982	553,142
Commodities:			
Grain and Grain products	52,487	46,726	44,760
Livestock	2,213	2,430	2,597
Coal	84,450	107,556	103,265
Coke	8,927	8,721	7,515
Forest Products.	40,369	38,280	35,235
Ore	47,043	48,922	44,838
Merchandise l.c.l.	6,039	9,745	12,815
Miscellaneous .	332,565	330,602	302,117
April 30	574,093	592,982	553,142
April 23	543,639	570,489	558,647
April 16	543,049	547,742	569,321
April 9	568,412	557,067	516,434
April 2	544,385	542,094	508,150
Cumulative total, 17 weeks	9,217,327	9,130,957	8,905,104
Estimated revenue ton-miles (billions) 17 weeks ...	232.1	216.3	208.8

PIGGYBACK CARLOADINGS—U.S. piggyback loadings for the week ended April 23 totaled 22,306 cars, carrying 36,934 trailers, compared with 18,927 cars, carrying 30,238 trailers, in the corresponding 1965 period. Loadings for 1966 up to April 23 totaled 335,683 cars, carrying 555,045 trailers, compared with 303,970 cars, carrying 488,842 trailers, in the corresponding period of 1965.

IN CANADA—Carloadings for the seven-day period ended April 14 totaled 65,849 cars, compared with 79,333 for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada		
April 14, 1966	65,849	25,176
April 14, 1965	70,869	26,224
Cumulative Totals		
April 14, 1966	1,093,329	383,741
April 14, 1965	1,019,854	360,450

RAILWAY AGE WEEKLY

FREIGHT-TRAIN CARS

► *Maine Central.*—Plans to order 200 new 50½-ft box cars at a cost of $3.2 million. Deliveries are planned for early 1967. The road also announced, following a board of directors' meeting authorizing the box car purchases, that an additional 200 40-ft box cars will be leased immediately.

LOCOMOTIVES

► *Maine Central.*—Directors have authorized the purchase of eight new diesel-electric locomotives at an approximate cost of $1.8 million. The orders will be placed with manufacturers later this year.

NEW FACILITIES

► *Central RR of New Jersey.*—Ordered 25 sets of train control equipment for push-pull commuter cars from Union Switch & Signal Division of WABCO.

► *Chesapeake & Ohio.*—Ordered 60 units of locomotive radio equipment from Union Switch & Signal Division of WABCO.

► *Jersey Central Lines.*—Ordered 25 sets of train control equipment from Union Switch & Signal Division of WABCO. The equipment will be installed on push-pull passenger trains operating in revised service under the Aldene Plan.

► *Louisville & Nashville.*—Will purchase 385 chest-pack radios costing about $260,000. The radios will be worn by switchmen and yard conductors to provide them with instant two-way communications.

► *Rock Island.*—Will upgrade car-cleaning and train inspection facilities at El Reno, Okla., at a cost of approximately $650,000.

► *Western Pacific.*—Will replace 9.3 track miles of 100-pound rail in main track with 136-pound welded rail and make a 2-in. to 6-in. ballast raise at various points between Flanigan and Gaskell, Nev. Work will be done by company forces, June through September, at a cost of $625,000. Construction is continuing on a line change between Salt Lake City and Garfield, Utah, which will convert separate single tracks of WP and Union Pacific into a double-track, paired operation. Relocation involves about two miles of line, although the paired-track operation will extend for about 12 miles. The change will permit crossings of the two railroads by Interstate Highway 80 with single overpass structures. Cost, including overpass structures, is estimated at $2,750,000 and will be borne by the state. Western Pacific is also replacing an existing freight apron and wooden gallows frame at Oakland Mole, Oakland, Calif., with a steel girder apron and steel gallows frame as part of a program to strengthen and improve system facilities to handle longer and heavier cars. Work will be completed in May; total cost is estimated at $250,000.

SPECIAL

► *Rock Island.*—Leased 100 car and truck units from Litsinger-Bell Leasing, Inc. Included are 28 HyRail units with J.B.E. Olson aluminum crew cars, Ford P-350 chassis and w/8′ pick-up bodies.

YOU OUGHT TO KNOW

ACL-L&N joint yard operation: Last week, Atlantic Coast Line consolidated its yard switching and freight agency operations with the Louisville & Nashville at Birmingham, Ala. Under the new arrangement ACL's through freight trains will operate over the L&N tracks from Parkwood to Boyles Yard. Coast Line's local freights will continue to serve industries on the railroad's line between Parkwood and Elyton; however all switching and making up of freight trains will be performed at Boyles Yard. The change in operations was made to reduce traffic problems at several street crossings near the ACL's Elyton yard. It is expected to speed up freight deliveries in the Birmingham area and to expedite the interchange of freight cars with other railroads. Total cost of the physical changes necessary to consolidate the facilities is more than $850,000.

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MARKET OUTLOOK

Carloadings

Loadings of revenue freight in the week ended April 30 totaled 574,093 cars, the Association of American Railroads announced on May 5. This was an increase of 30,454 cars, or 5.6%, compared with the previous week; a decrease of 18,889 cars, or 3.2%, compared with the corresponding week last year; and an increase of 20,951 cars, or 3.8%, compared with the equivalent 1964 week. Ton-miles generated by carloadings in the week ended April 30 are estimated at 14.3 billion, an increase of 2.6% above the corresponding week of 1965, and 14.2% above the 1964 week.

REVENUE FREIGHT CARLOADINGS
For the week ended Saturday, Apr. 30

District	1966	1965	1964
Eastern, including Allegheny and Pocahontas ..	221,478	244,675	227,715
Southern	110,847	118,916	102,865
Total Eastern and Southern Districts	332,325	363,591	330,580
Northwestern .	83,470	78,284	74,677
Central Western	117,673	111,111	109,667
Southwestern .	40,625	39,996	38,218
Total Western Districts	241,768	229,391	222,562
Total All Roads	574,093	592,982	553,142
Commodities:			
Grain and Grain products	52,487	46,726	44,760
Livestock	2,213	2,430	2,597
Coal	84,450	107,556	103,265
Coke	8,927	8,721	7,515
Forest Products.	40,369	38,280	35,235
Ore	47,043	48,922	44,838
Merchandise l.c.l.	6,039	9,745	12,815
Miscellaneous .	332,565	330,602	302,117
April 30	574,093	592,982	553,142
April 23	543,639	570,489	558,647
April 16	543,049	547,742	569,321
April 9	568,412	557,067	516,434
April 2	544,385	542,094	508,150
Cumulative total, 17 weeks	9,217,327	9,130,957	8,905,104
Estimated revenue ton-miles (billions) 17 weeks ...	232.1	216.3	208.8

PIGGYBACK CARLOADINGS—U.S. piggyback loadings for the week ended April 23 totaled 22,306 cars, carrying 36,934 trailers, compared with 18,927 cars, carrying 30,238 trailers, in the corresponding 1965 period. Loadings for 1966 up to April 23 totaled 335,683 cars, carrying 555,045 trailers, compared with 303,970 cars, carrying 488,842 trailers, in the corresponding period of 1965.

IN CANADA—Carloadings for the seven-day period ended April 14 totaled 65,849 cars, compared with 79,333 for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada		
April 14, 1966	65,849	25,176
April 14, 1965	70,869	26,224
Cumulative Totals		
April 14, 1966	1,093,329	383,741
April 14, 1965	1,019,854	360,450

RAILWAY AGE WEEKLY

FREIGHT-TRAIN CARS

► *Maine Central.*—Plans to order 200 new 50½-ft box cars at a cost of $3.2 million. Deliveries are planned for early 1967. The road also announced, following a board of directors' meeting authorizing the box car purchases, that an additional 200 40-ft box cars will be leased immediately.

LOCOMOTIVES

► *Maine Central.*—Directors have authorized the purchase of eight new diesel-electric locomotives at an approximate cost of $1.8 million. The orders will be placed with manufacturers later this year.

NEW FACILITIES

► *Central RR of New Jersey.*—Ordered 25 sets of train control equipment for push-pull commuter cars from Union Switch & Signal Division of WABCO.

► *Chesapeake & Ohio.*—Ordered 60 units of locomotive radio equipment from Union Switch & Signal Division of WABCO.

► *Jersey Central Lines.*—Ordered 25 sets of train control equipment from Union Switch & Signal Division of WABCO. The equipment will be installed on push-pull passenger trains operating in revised service under the Aldene Plan.

► *Louisville & Nashville.*—Will purchase 385 chest-pack radios costing about $260,000. The radios will be worn by switchmen and yard conductors to provide them with instant two-way communications.

► *Rock Island.*—Will upgrade car-cleaning and train inspection facilities at El Reno, Okla., at a cost of approximately $650,000.

► *Western Pacific.*—Will replace 9.3 track miles of 100-pound rail in main track with 136-pound welded rail and make a 2-in. to 6-in. ballast raise at various points between Flanigan and Gaskell, Nev. Work will be done by company forces, June through September, at a cost of $625,000. Construction is continuing on a line change between Salt Lake City and Garfield, Utah, which will convert separate single tracks of WP and Union Pacific into a double-track, paired operation. Relocation involves about two miles of line, although the paired-track operation will extend for about 12 miles. The change will permit crossings of the two railroads by Interstate Highway 80 with single overpass structures. Cost, including overpass structures, is estimated at $2,750,000 and will be borne by the state. Western Pacific is also replacing an existing freight apron and wooden gallows frame at Oakland Mole, Oakland, Calif., with a steel girder apron and steel gallows frame as part of a program to strengthen and improve system facilities to handle longer and heavier cars. Work will be completed in May; total cost is estimated at $250,000.

SPECIAL

► *Rock Island.*—Leased 100 car and truck units from Litsinger-Bell Leasing, Inc. Included are 28 HyRail units with J.B.E. Olson aluminum crew cars, Ford P-350 chassis and w/8′ pick-up bodies.

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(Continued from page 34)

fice, which supplements the work of the regular freight traffic office located in the same building, will be headquarters for the C&O's piggyback sales and service staff, which has been assigned to an eight-state territory in the southeast. Mr. Cooper was formerly freight service representative, trailer service department, Cleveland.

Dwight C. Carroll appointed district sales manager, Indianapolis, Ind., succeeding **C. R. Miller,** promoted.

CHESAPEAKE & OHIO—BALTIMORE & OHIO.—E. Eugene Gibson appointed assistant treasurer, Baltimore.

J. W. Smith appointed manager of special studies—transportation and **J. F. Dietz** named transportation analyst—costs and budgets, both at Baltimore. **M. F. Leslie** named superintendent of costs, Chicago Terminal.

Frederick W. Doolittle, Jr., general attorney, B&O, appointed general solicitor, C&O-B&O, Baltimore

Appointments made in the joint C&O-B&O mechanical department (former positions in parentheses):

At Huntington, W. Va.: **Charles D. Allen,** assistant chief mechanical officer—locomotive (superintendent motive power, C&O, Huntington); **Ernest E. Slack,** assistant chief mechanical officer—car (general superintendent car department, C&O-B&O, Huntington); **Harry J. White,** administrative assistant for mechanical department—locomotive and car (administrative duties, office of chief mechanical officer, C&O); **William C. Reister,** general superintendent car department (assistant general superintendent for both roads); **Stanley M. Ehrman,** superintendent car department—operations (superintendent, C&O car department, Huntington); **Frank B. Findling,** superintendent car department—planning (superintendent car construction, B&O, Baltimore).

Northern Region: At Grand Rapids, Mich.—**Clarence A. Thomas,** superintendent car department (assistant superintendent car department, C&O); **Richard M. Vandermolen,** car superintendent (general car inspector, C&O). *At St. Thomas, Ont*—**Leslie W. Varney,** car superintendent (district car foreman).

Central Region: **Wayde S. Furlow,** superintendent car department, Pittsburgh (general supervisor of car maintenance, B&O, Baltimore). Former general supervisors car maintenance named car superintendents—**Bernard J. Borgman,** Baltimore; **Karl F. Mewshaw,** Grafton, W. Va.; **John N. Minns,** Willard, Ohio.

Southern Region: **E. J. Henshaw,** superintendent car department, Huntington, W. Va. (assistant general master mechanic there, C&O). Car superintendents named: **A. M. Childers,** Richmond, Va. (general car foreman, Newport News); **U. G. Clemons,** Hinton, W. Va. (master mechanic, Hinton, W. Va.); **Milton I. Taylor,** Russell, Ky. (general foreman, Ashland, Ky.; and **T. H. Conkle,** Columbus, Ohio (general car inspector, Columbus).

Western Region: **George B. Kirwan,** superintendent car department, Cincinnati, Ohio (general supervisor car maintenance, B&O); **James A. Collins,** car superintendent, Cincinnati (general car foreman, C&O, Stevens, Ky.); **Charles C. Lane,** assistant car superintendent, Peru, Ind. (assistant general car inspector, Peru); and **Claude R. Haskins,** assistant car superintendent, Washington, Ind. (assistant general car supervisor there).

CHICAGO & EASTERN ILLINOIS.—Harvey R. Nelson, vice president and comptroller, retired Apr. 30 after 48 years of service.

GRAND TRUNK WESTERN.—Donald G. Konrad appointed editor of the GT Reporter, a new monthly tabloid for the road's employees. Mr. Konrad was formerly an editor for the **Michigan Employment Security Commission.**

ILLINOIS CENTRAL.—William B. Johnson assumed duties as president and chief executive officer of the IC and Illinois Central Industries at Chicago on May 2 (RA, May 2, p. 8). Mr. Johnson was formerly president of **REA Express,** New York. **Wayne A. Johnston,** president of the IC for more than 20 years, became chairman of the board of both companies.

LEHIGH VALLEY.—The traffic department at New York is being consolidated and moved to 140 Cedar Street.

At Bethlehem, Pa., traffic officers will move to offices at 415 Brighton Street in the same building as executive headquarters.

LOUISVILLE & NASHVILLE.—Robert F. Stiens, director of tax administration, named assistant vice president-tax administration, Louisville. **W. H. Thompson,** assistant chief transportation officer, appointed assistant to vice president-operation.

SEABOARD.—Howard P. Toxey, assistant vice president freight traffic, elected vice president in charge of freight traffic, Richmond, Va., succeeding **John P. Derham,** retired April 30 after 46 years service.

Alan L. Fowler appointed industrial forester, Richmond, Va.

James L. Lewis appointed assistant general passenger agent, Miami, Fla., succeeding **R. E. Blumenstiel,** retired.

H. L. Kent

James L. Duffy

Supply Trade

H. L. Kent, president and general manager of the **Standard Railway Equipment Division** of **Stanray Corp.,** has been elected a vice president of the corporation.

James L. Duffy, sales representative, **Cardwell Westinghouse Co.** and **Universal Railway Devices Co.,** Chicago, has been appointed general sales manager for both companies.

C. P. Whitehead, chairman of the board, **General Steel Industries,** Granite City, Ill., retired April 21, after 47 years with GSI.

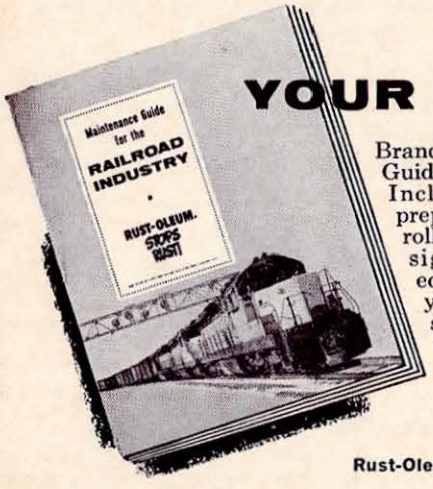
L. H. Gillick, vice chairman of the board and head of sales, **Vapor Corp.** (AMERCON CORP.) retired April 22 after 50 years of service.

V. W. Snyder has been appointed director of marketing, **Thermo King Corp.,** Minneapolis, Minn., succeeding the late **Ralph W. Porter,** vice president in charge of marketing. Mr. Snyder will retain his duties as general sales manager.

Thomas N. Nelson has been appointed sales engineer, Railway Equipment Division of **Nordberg Mfg. Co.,** Milwaukee, Wis. Mr. Nelson had been a sales engineer specializing in railway sales for the Export Department.

H. Edward Hanson appointed manager of leasing, Industrial Battery Division, **Gould-National Batteries, Inc.,** St. Paul, Minn.

EBS Management Consultants, Inc., of New York, a subsidiary of Electric Bond & Share Co., has announced that it has acquired **W. B. Saunders & Co.,** an economic and transportation research and consulting firm in Washington, D.C. **W. B. Saunders** has been



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named managing director of the Washington division.

Jack Dwyer has been appointed manager transportation sales, **General Electric Co.**, at New York for an expanded region that includes Maryland, Delaware, southern New Jersey and eastern Pennsylvania. Mr. Dwyer will continue to be responsible for sales of GE's transportation equipment in all of New England, New York, northern New Jersey and northwestern Pennsylvania.

Kenneth J. Terry, chief industrial sales engineer, **Stromberg-Carlson Corp.,** has been appointed manager of industrial sales in S-C's telecommunications group.

OBITUARY

Herbert W. Faus, 79, who retired in 1953 as engineer locomotive equipment, **New York Central System,** New York, died April 23 while vacationing in Eustis, Fla.

R. B. Little, sales manager of the Reliance Division of **Eaton Manufacturing Co.,** Massillon, Ohio, died April 15.

Joe R. Peel, 66, chairman, **Southwestern Freight Bureau,** died April 27 at St. Luke's Hospital, St. Louis, Mo., after a brief illness.

Joseph E. Simmons, 71, who was associated with **Rust-Oleum Corp.,** Evanston, Ill., for 34 years, died Feb. 24, at St. Louis, Mo., after a brief illness. Mr. Simmons was placed in charge of the Railroad Sales Division in 1944.

Jack Swinarton, assistant general freight sales manager, **Canadian Pacific,** Montreal, died April 14.

Toronto show is a hit

(Continued from page 26)

furnishings for subways; as well as literature describing products from Shenango-Penn, Locke Manufacturing, Hoffman roller bearings and Cullman Wheels.

• **Cushioning.** Keystone Railway Equipment demonstrated the Keystone Shock control, a hydraulic system for cushioning underframes; also quick-dump covered hopper outlets.

William C. Duncan Ltd. displayed RAMCO's flash butt welding rail method; and as licensee for Stedef in France, showed RS concrete ties and RN double elastic fastenings.

Aeroquip Canada had cargo-tiedown and load control equipment, as well as seals and joints; New York Air Brake's BIF Division showed belt feeders; Nationwide Railroad Leasing showed models of the All-Door box car; and Dosco Steel all types of industrial fasteners.

Air filtration equipment was exhibited by Farr and American Air Filter; American Machine & Foundry had self-leveling work positioners; S. A. Armstrong showed pallet trucks; and Allis-Chalmers, Champ Lift, Clark Equipment and Stathmos Scale showed forklift trucks.

Heywood-Wakefield showed seating for railways and subways; Martin Engineering, industrial vibrators for moving products out of hoppers and down chutes; Pallet Pool—hardwood and plywood pallets.

Various types of cranes were promoted by Fairey-Canada, Canadian Demag, and BK&B; Cummins Diesel and Perkins displayed small engines; Union Carbide Canada demonstrated its Polarstream in-transit system of refrigeration utilizing liquid nitrogen.

H. F. McDonald Equipment displayed pressure gauges and temperature controls for locomotives, and epoxy insulators; Prime Manufacturing showed gauge testing equipment and fittings, sanding equipment, and welded pipe fittings.

Hunslet supplied literature related to mining locomotives, and Philips Electronics demonstrated equipment for weighing underground trains.

Conferences were held on three consecutive mornings in the course of the show on "New approaches in materials management systems," "Standard versus non-standard packaging," and "Financial justification—which method?" Participants included Container Transport International, Arthur D. Little consultants, and others. ■

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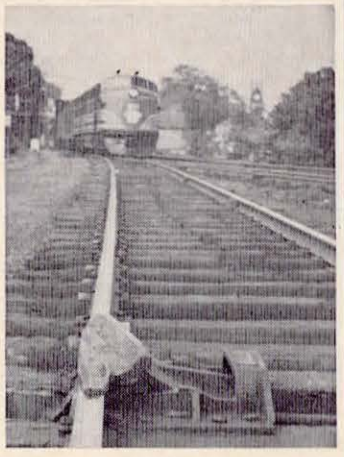

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American Steel Foundries, Inc., Amsted Industries ....Cover 4

Bethlehem Steel Corporation 3
Bruce Company, Inc., E. L. 31

Foster Company, L. R. 30

Gulf Oil Corporation .....Cover 3

Hayes Track Appliance Company 38

International Car Corporation 33

Kershaw Manufacturing Company, Inc. 38

Marquardt Corporation, The 6
Midwest Steel Corporation 32
Missouri-Kansas-Texas Railroad Company 4

National Lead Company, Magnus Metal Division 14

Railway Maintenance Corporation .....Cover 2
Rust-Oleum Corporation 37

Speno Railroad Ballast Cleaning Co., Inc., Frank 34

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1965
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THE ACTION PAGE

The ICC and merger: Are patterns changing?

Did the Interstate Commerce Commission rewrite the book on merger when it approved Pennsylvania New York Central Transportation and rejected Great Northern Pacific & Burlington? Do the two decisions—announced the same day—provide fixed and reliable guidelines for merger-minded managers to follow in future efforts?

At this point, the answers to both questions look like "no." A week or 10 days isn't much time for even the most expert observers to ponder decisions as complex as those in the PRR-NYC and GNP&B cases. Still, the tendency—based on a fast look at the record—is to regard the ICC's reasoning as for the moment, not necessarily for eternity.

Curiously, perhaps, many people seemed to regard approval of Penn-Central as a foregone conclusion—while GNP&B, even with an examiner's nod, seemed much more in doubt. And, of course, the outcome—unanimous for the eastern merger, a razor-thin 6-5 vote against the western consolidation—made the odds-makers look pretty bright. Some observers tried to find reasons in the make-up of the Commission itself. But they came up empty-handed. Party lines were crossed; there seemed to be no geographic correlations in the 6-5 vote. The only "pattern" visible seemed to be one based on longevity: The five commissioners constituting the minority in favor of GNP&B merger—Commissioners Freas, Tuggle, Walrath, Goff and Murphy—are senior members of the ICC, with service records dating back to the 1950s, while the six commissioners opposing the merger are (with the exception of Commissioner Webb) appointees of the 1960s.

A clue in industry affairs?

More to the point, probably, would be a look at the industry—in the context of what has actually happened over the past decade in the merger area. With a few exceptions—and they aren't major ones—the merger movement has been a movement only east of the Mississippi. And there are some viewers of the scene who think the Commission, astride a tiger in the East, is trying to shoo away the animal in the West.

In some ways, this is a believable theory. There has been a sort of awesome majesty to the forward march of consolidation in eastern territory, from the small beginning of Norfolk & Western-Virginian through Erie Lackawanna, Chesapeake & Ohio-Baltimore & Ohio, N&W-Nickel Plate-Wabash and Penn-Central to the proposed N&W-C&O combine. Each step has seemed to lead logically to the next; in a way, each step taken has made the next step more necessary. It's an application of momentum, or the inertia of motion, perhaps.

In the West, however, for quite a while there was peace, relative prosperity and little propensity for merging. For quite a while, GNP&B was the only major merger moving through the regulatory mill.

Then things started to happen—and most of them happened to Rock Island. All of a sudden, the West exploded with merger activity. Union Pacific, Southern Pacific, Chicago & North Western, Santa Fe, Denver & Rio Grande became directly involved in the Rock Island affair, and almost every other major road in the territory waded in as an intervener.

On top of this, C&NW and Milwaukee proposed merger, Missouri Pacific acquired Santa Fe stock, Frisco and Southern got studies under way.

The waiting—and the watching

In short, the West seemed to be generating a merger momentum like that which has transformed rail transportation in the East. And it just could be that the Commission wants to take a long look at western territory, without the pressures of one merger leading to another, to another, to another.

This is, admittedly, speculation. It doesn't fit all the available facts; it doesn't mesh with the case-by-case policy which has been followed in recent years; it doesn't find support in the reasons given by the ICC majority in rejecting GNP&B.

But there are enough facts scattered around to support this kind of speculation—if not to build an actual belief that the Commission wants to exert a tighter control over the making of mergers in the West than it has been able to exert in the East. Factually, it's likely to be some time before the industry can get an accurate reading as to whether the ICC is adopting new policies, putting new interpretations on old ones or just playing it real cool in its handling of merger cases.

So the wait begins again. And in the meantime it's a safe bet that (a) the GNP&B decision will be torn apart, sentence by sentence, in a search for clues to new ICC thinking, while (b) every word on merger from each individual commissioner will get an equally careful going over. Merger has been—and is—that important to the industry.

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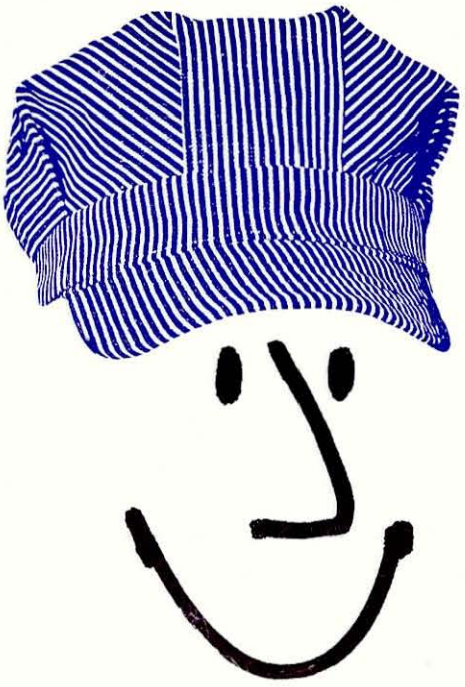

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